

SIV SERIES

Small Changes, Big Accomplishments







540-555W



● SIV SERIES

Seraphim redefined the high-efficiency module series by integrating 182mm silicon wafers with multi-busbar and half-cut cell technologies. Seraphim panel combined creative technology effectively and extremely improved the module efficiency and power output.

● KEY FEATURES

-  Less mismatch to get more power
-  Less power loss by minimizing the shading impact
-  Competitive low light performance
-  3 times EL test to ensure best quality
-  Ideal choice for utility and commercial scale projects by reduced BoS and improved ROI
-  Outstanding reliability proven by PVEL for stringent environment condition:
 - Sand, acid, salt and hail stones
 - 2400 Pa wind load and 5400 Pa snow load
 - Anti-PID

● QUALITY SYSTEM

ISO9001 / ISO14001 / ISO45001

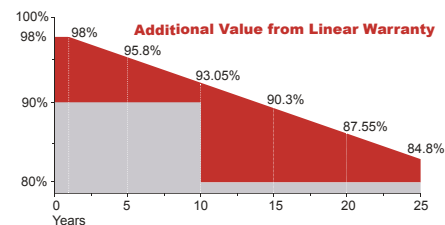
● PRODUCT CERTIFICATION



● INSURANCE

PICC

● WARRANTY



Guarantee on product material and workmanship



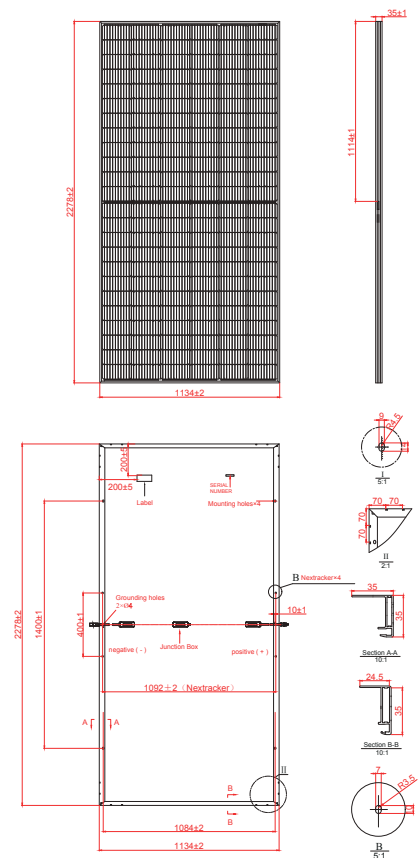
Linear power output warranty



Electrical Characteristics

Module Type	SRP-540-BMA-HV		SRP-545-BMA-HV		SRP-550-BMA-HV		SRP-555-BMA-HV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power at STC (Pmp)	540	406	545	409	550	414	555	418
Open Circuit Voltage (Voc)	49.50	46.18	49.60	46.32	49.70	46.40	49.80	46.50
Short Circuit Current (Isc)	13.81	11.16	13.90	11.23	14.00	11.32	14.10	11.41
Maximum Power Voltage (Vmp)	41.55	38.39	41.80	38.41	42.05	38.58	42.31	38.68
Maximum Power Current (Imp)	13.00	10.59	13.04	10.65	13.08	10.73	13.12	10.81
Module Efficiency at STC(%)	20.90		21.10		21.29		21.48	
Power Tolerance	(0, +4.99W)							
Maximum System Voltage	1500V DC							
Maximum Series Fuse Rating	25 A							

STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5
Power measurement tolerance: +/-3%



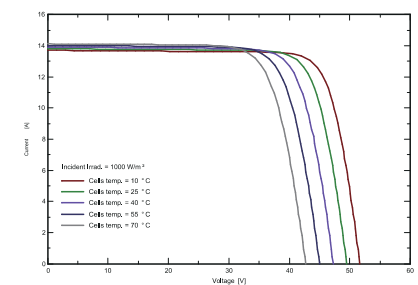
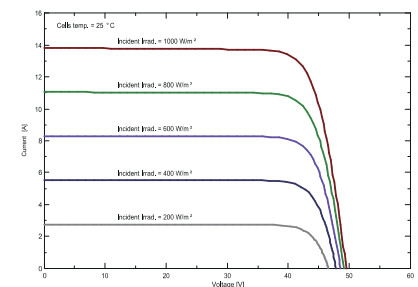
Temperature Characteristics

Pmax Temperature Coefficient	-0.34 %/°C
Voc Temperature Coefficient	-0.26 %/°C
Isc Temperature Coefficient	+0.05 %/°C
Operating Temperature	-40 ~ +85 °C
Nominal Operating Cell Temperature(NOCT)	45±2 °C

Mechanical Specifications

External Dimensions	2278x1134x35 mm
Weight	27.0 kg
Solar Cells	PERC Mono (144pcs)
Front Glass	3.2mm AR coating tempered glass, low iron
Frame	Anodized aluminium alloy
Junction Box	IP68, 3 diodes
Output Cables	4.0mm ² , 250mm(+)/350mm(-) or Customized Length
Mechanical Load	Front side 5400Pa/ Rear side 2400Pa

I-V Curve



Packing Configuration

	2278x1134x35 mm	
Container	20'GP	40'HQ
Pieces per Pallet	31+4*	31
Pallets per Container	4	20
Pieces per Container	140	620

* 31+4 pieces per pallet is the special package which only suits for container transport.
For details, please consult SERAPHIM.



SG125CX-P2

Multi-MPPT String Inverter for 1000 Vdc System

Preliminary



HIGH YIELD

- 12 MPPTs with max. efficiency 98.5%
- DC 15A current input, compatible with over 500W+ PV module
- Dynamic shading optimization mode

SMART O&M

- Key component diagnosis and protection
- Smart IV Curve Diagnosis
- Grid fault record function, easy for remote O&M

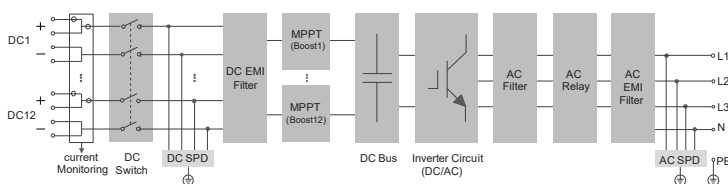
LOWER INVESTMENT

- Compatible max. 240mm² Al AC cables
- Drawer-style cable sealing plate support AC cable pre-assembly

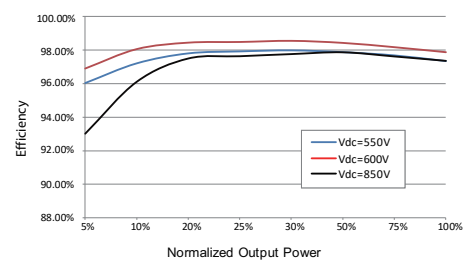
PROVEN SAFETY

- IP66 protection and C5 Anti-corrosion
- DC Type I+II SPD, AC Type II SPD
- Support AFCI 2.0 function

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SG125CX-P2
Input (DC)	
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Min. operating PV voltage / Start-up input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPP voltage range	180 – 1000 V
No. of independent MPP inputs	12
No. of PV strings per MPPT	2
Max. PV input current	360 A (30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A)
Max. DC short-circuit current	480 A (40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A / 40 A)
Output (AC)	
Max. AC Output power	125 kVA
Rated AC output apparent power	125 kVA
Max. AC output current	181.1 A
Rated AC voltage	3 / N / PE, 230 / 400 V
AC voltage range	320 – 480V
Rated grid frequency / Grid frequency range	50 Hz / 45 - 55 Hz 60 Hz / 55 - 65 Hz
Harmonic (THD)	< 3 % (at rated power)
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / AC connection	3 / 3-PE
Efficiency	
Max. efficiency	98.50%
European efficiency	98.30%
Protection and Function	
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
DC switch	Yes
PV string monitoring	Yes
Q at night function	Yes
PID recovery function	Yes
Arc fault circuit interrupter (AFCI)	Yes
Surge protection	DC Type I + II / AC Type II
General Data	
Dimensions (W*H*D)	1019*793*360mm
Weight	87 kg
Topology	Transformerless
Degree of protection	IP66
Night power consumption	< 4 W
Operating ambient temperature range	-30 to 60 °C (> 45 °C derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating)
Display	LED, Bluetooth+APP
Communication	RS485 / Optional: WLAN, Ethernet
DC connection type	Evo2 (Max. 6 mm ²)
AC connection type	OT / DT terminal (Max. 240 mm ²)
Compliance	IEC 62109-1, EN/IEC 61000-6-1/2/3/4, IEC 61727, IEC 62116, EN 50549-1/2, UTE C15-712-1, VDE V 0126-1-1, VFR 2019, NC RfG, G99
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control
Country of manufacture	China



SG33CX/SG40CX/ SG50CX

Premium

SUNGROW
Clean power for all

Multi-MPPT String Inverter for 1000 Vdc System



HIGH YIELD

- Up to 5 MPPTs with max. efficiency 98.7%
- Compatible with bifacial module
- Built-in PID recovery function

SMART O&M

- Touch free commissioning and remote firmware upgrade
- Smart IV Curve diagnosis *
- Fuse free design with smart string current monitoring

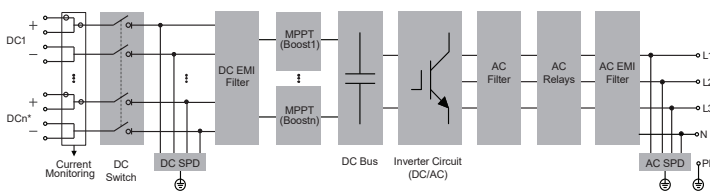
SAVED INVESTMENT

- Compatible with Al and Cu AC cables
- DC 2 in 1 connection enabled
- Cable free communication with optional WLAN

PROVEN SAFETY

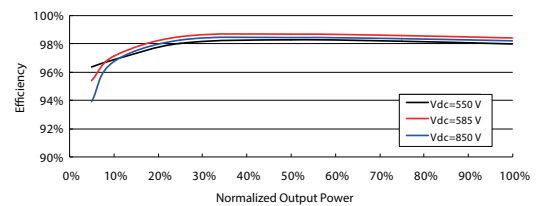
- Quick arc-fault circuit interrupter
- Integrated type I & II DC SPD, type II AC SPD
- IP66 and C5 anti-corrosion

CIRCUIT DIAGRAM



*: n=3(SG33CX)4(SG40CX)5(SG50CX)

EFFICIENCY CURVE (SG50CX)



Type designation	SG33CX	SG40CX	SG50CX
Input (DC)			
Max. PV input voltage		1100 V **	
Min. PV input voltage / Start-up input voltage		200 V / 250 V	
Nominal PV input voltage		585 V	
MPP voltage range		200 – 1000 V	
No. of independent MPP inputs	3	4	5
No. of PV strings per MPPT		2	
Max. PV input current	3 * 26 A	4 * 26 A	5 * 26 A
Max. DC short-circuit current	3 * 40 A	4 * 40 A	5 * 40 A
Output (AC)			
AC output power	33 kVA @45 °C, 400Vac / 36.3 kVA @ 40 °C,400Vac 33 kVA @ 50 °C, 415Vac / 36.3 kVA @ 45 °C, 415Vac	40 kVA @ 45 °C, 400Vac / 44 kVA @ 40 °C,400Vac 40 kVA @ 50 °C, 415Vac / 44 kVA @ 45 °C, 415Vac	50 kVA @45 °C, 400Vac / 55kVA @ 40 °C,400Vac 50kVA @ 50 °C, 415Vac / 55kVA @ 45 °C,415Vac
Max. AC output current	55.2 A	66.9 A	83.6 A
Nominal AC voltage		3 / N / PE, 230 / 400 V	
AC voltage range		312 – 528 V	
Nominal grid frequency / Grid frequency range		50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz	
Harmonic (THD)		< 3 % (at nominal power)	
DC current injection		< 0.5 % I _n	
Power factor at nominal power / Adjustable power factor		> 0.99 / 0.8 leading – 0.8 lagging	
Feed-in phases / AC connection		3 / 3	
Efficiency			
Max. efficiency / European efficiency	98.6 % / 98.3 %	98.6% / 98.3%	98.7% / 98.4%
Protection and Function			
DC reverse polarity protection		Yes	
AC short circuit protection		Yes	
Leakage current protection		Yes	
Grid monitoring		Yes	
Ground fault monitoring		Yes	
DC switch		Yes	
AC switch		No	
PV string monitoring		Yes	
Q at night function		Yes	
PID recovery function		Yes	
Arc fault circuit interrupter (AFCI)		Yes	
Overvoltage protection		DC Type I + II / AC Type II	
General Data			
Dimensions (W*H*D)	702*595*310mm	782*645*310mm	782*645*310mm
Weight	50 kg	58 kg	62 kg
Topology		Transformerless	
Degree of protection		IP66	
Night power consumption		≤2 W	
Operating ambient temperature range		-30 to 60 °C (> 45 °C derating)	
Allowable relative humidity range		0 – 100 %	
Cooling method		Smart forced air cooling	
Max. operating altitude		4000 m (> 3000 m derating)	
Display		LED, Bluetooth+APP	
Communication		RS485 / Optional: WLAN, Ethernet	
DC connection type		MC4 (Max. 6 mm ²)	
AC connection type		OT or DT terminal (Max.70 mm ²)	
Compliance		IEC 62109, IEC 61727, IEC 62116, IEC 60068, IEC 61683, VDE-AR-N 4105:2018, VDE-AR-N 4110:2018, IEC 61000-6-3, EN 50549-1/2, AS/NZS 4777.2:2015, CEI 0-21 2019, CEI0-16 2019, VDE 0126-1-1/A1 VFR 2019, UTE C15-712-1:2013, DEWA, UNE 206007-1/RD 1699, UNE 217001, Israel certificate, G99	
Grid Support		Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control	

* Only compatible with Sungrow Logger, EyeM4 and iSolarCloud

** If the maximum DC voltage in the system can exceed 1000V, the MC4 connectors included in the scope of delivery must not be used. In this case MC4 Evo2 connectors must be used.

