



Neostar 2S Mono-Glass Module

440W-460W

Second Generation
Comprehensive Upgrade:

 **Partial Shading Optimisation**

 **Better Temperature Coefficient**

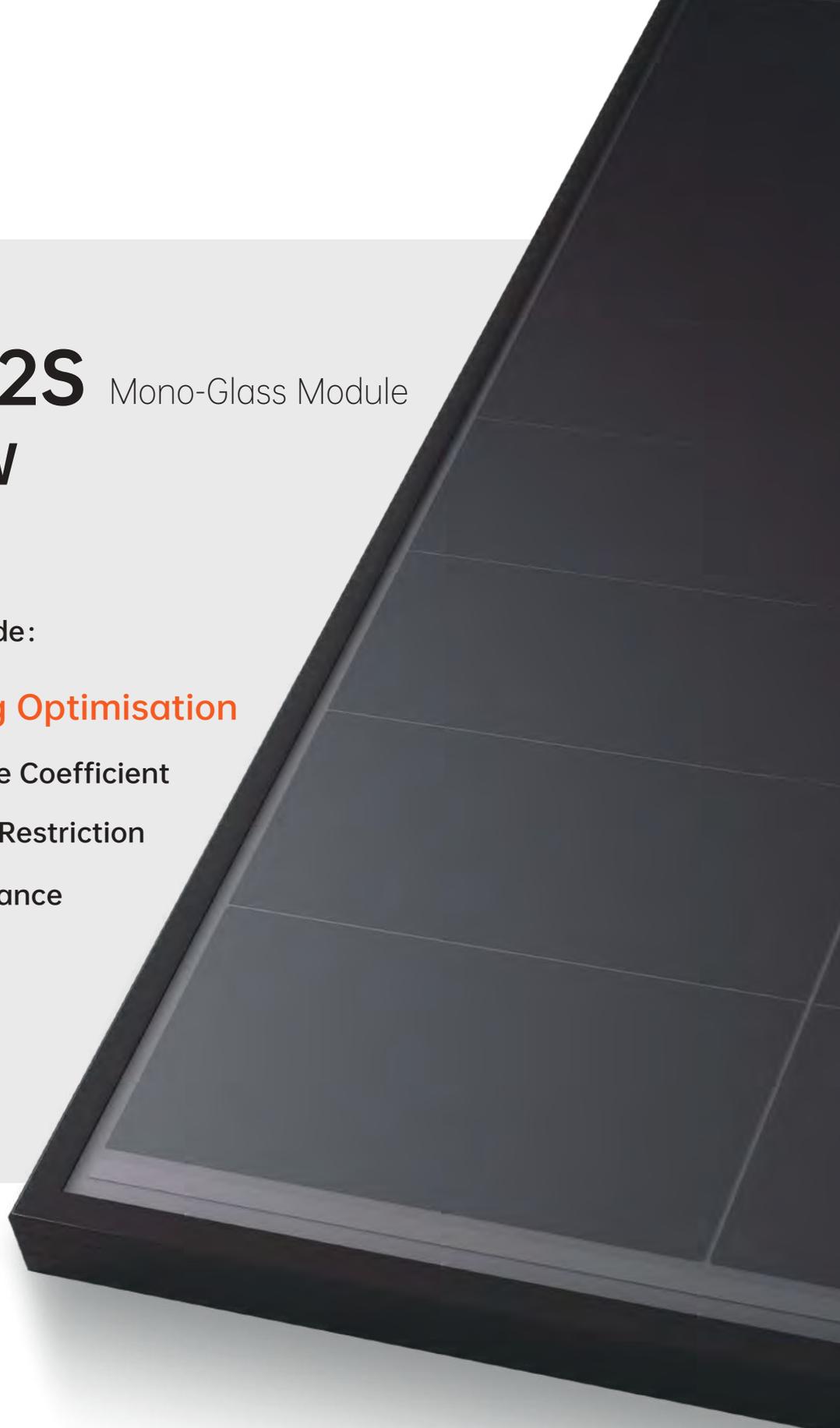
 **High Temperature Restriction**

 **Micro-crack Resistance**

 **Higher Power**

 **Lower BOS**

 **Full Black Design**



Product
Warranty



Performance
Warranty



reddot winner 2023



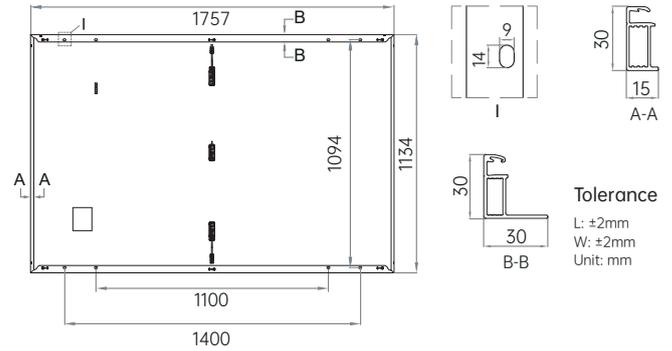
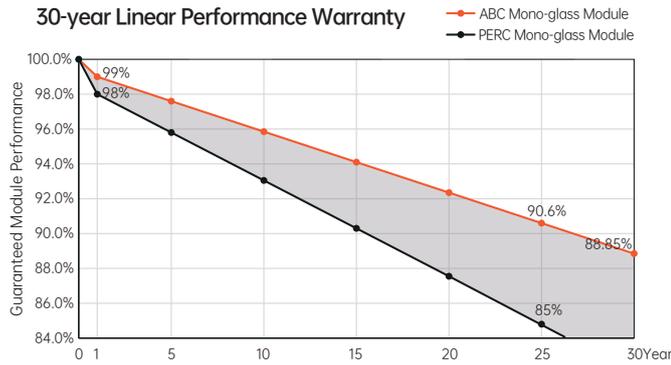
Munich RE 

460W
Output

23.1%
Efficiency

≤1%
First-year Degradation

≤0.35%
Annual Degradation from Year 2-30



Electrical Characteristics (STC: AM1.5 1000W/m ² 25°C NOCT: AM1.5 800W/m ² 20°C 1m/s)										Power Tolerance: 0~ + 3%	
Module Type	AIKO-A440-MAH54Mb		AIKO-A445-MAH54Mb		AIKO-A450-MAH54Mb		AIKO-A455-MAH54Mb		AIKO-A460-MAH54Mb		
	STC	NOCT									
P _{max} [W]	440	331	445	335	450	339	455	343	460	346	
V _{oc} [V]	40.49	38.24	40.59	38.33	40.69	38.43	40.79	38.52	40.89	38.62	
V _{mp} [V]	33.50	31.64	33.60	31.73	33.70	31.83	33.80	31.92	33.90	32.02	
I _{sc} [A]	13.91	11.25	14.02	11.33	14.12	11.42	14.22	11.50	14.32	11.58	
I _{mp} [A]	13.14	10.49	13.25	10.57	13.36	10.66	13.47	10.75	13.57	10.83	
Module Efficiency	22.1%		22.3%		22.6%		22.8%		23.1%		

Mechanical Specification

Cell Type	N-Type ABC
Front Cover Mono glass	3.2 mm tempered glass
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm
No. of Cells	108(6*18)
Junction Box	IP68,3 bypass diodes
Connector	MC4-Evo2
Weight	21.5kg
Dimension	1757*1134*30mm
Package Detail	36pcs per pallet / 216pcs per 20'GP / 936pcs per 40'HC

Temperature Ratings (STC)

Temperature Coefficient of I _{sc}	+ 0.05%/ °C
Temperature Coefficient of V _{oc}	- 0.22%/ °C
Temperature Coefficient of P _{max}	- 0.26%/ °C

Installation Guide

Operation Temperature	-40°C - +85°C
Maximum Series Fuse Rating	25A
Protection Class	Class II
V _{oc} and I _{sc} Tolerance	±3%
Maximum System Voltage	DC1500V
Maximum Static Loading	Front 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



SH3.0/3.6/4.0/5.0/6.0RS

Residential Hybrid Single Phase Inverter



FLEXIBLE APPLICATION

- 80 V ~ 460 V wide battery voltage range
- Ideal for both retrofitting and new installations
- Built-in smart PID Zero function



USER FRIENDLY SETUP

- Plug and play installation
- iSolarCloud monitoring available on App and Web
- Lightweight and compact, optimized for heat-dissipation



ENERGY INDEPENDENCE

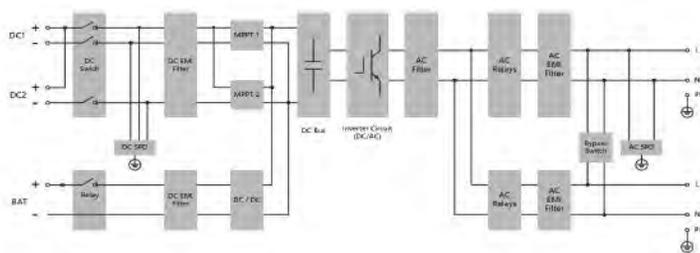
- Seamless transition to backup mode, for protection against power outages
- Fast Charging or discharging, enabling higher self-consumption results
- Built-in EMS with advanced customization



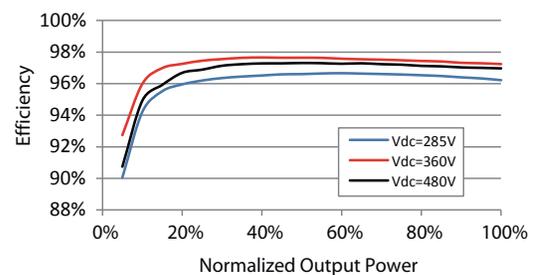
SMART MANAGEMENT

- Real time data (10 seconds refresh sample)
- 24/7 live online monitoring and with integrated display
- Online IV curve scan and diagnosis

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH6.0RS)



Type designation	SH3.0RS	SH3.6RS	SH4.0RS	SH5.0RS	SH6.0RS
Input (DC)					
Recommended max. PV input power	10000 Wp	10700 Wp	11000 Wp	12000 Wp	13000 Wp
Max. PV input voltage	600 V				
Min. PV input voltage / Startup input voltage	40 V / 50 V				
Rated MPPT voltage range	140 - 480 V	170 - 480 V	190 - 480 V	235 - 480 V	285 - 480 V
MPP voltage range	40 V - 560 V				
No. of independent MPP inputs	2				
No. of PV strings per MPPT	1 / 1				
Max. PV input current	32 A (16 A / 16 A)				
Max. DC short-circuit current	40 A (20 A / 20 A)				
Max. current for input connector	20 A				
Battery data					
Battery type	Li-ion battery				
Battery voltage	80 V - 460 V				
Max charge / discharge current	30 A / 30 A				
Max charge / discharge power	6600 W				
Input / output (AC)					
Max. AC power from grid	10000 VA	10700 VA	11000 VA	12000 VA	13000 VA
Rated AC output power	3000 W	3680 W	4000 W	5000 W	6000 W
Max. AC output apparent power	3000 VA	3680 VA	4000 VA	5000 VA	6000 VA
Max. AC output current	13.7 A	16 A	18.2 A	22.8 A	27.3A
Rated AC voltage	220 V / 230 V / 240 V				
AC voltage range	154 V - 276 V				
Rated grid frequency	50 Hz / 60 Hz				
Grid frequency range	45 Hz - 55 Hz / 55 Hz - 65 Hz				
Harmonic (THD)	<3 % (of rated power)				
Power factor at Rated power / Adjustable power factor	>0.99 at default value at rated power				
Feed-in phases / connection phases	1 / 1				
Efficiency					
Max. efficiency / European efficiency	97.4 % / 97.0 %	97.5 % / 97.1 %	97.6 % / 97.2 %	97.7 % / 97.3 %	97.7 % / 97.3 %
Backup data (on grid mode)					
Rated output power for backup load	6000 W				
Rated output current for backup load	27.3 A				
Backup data (off-grid mode)					
Rated voltage	220 V / 230 V / 240 V (± 2 %)				
Frequency range	50 Hz / 60 Hz (± 0.2 %)				
Output voltage harmonic (THD)	< 2 %				
Switch time to emergency mode	< 10 ms				
Rated output power	3000W / 3000VA	3680W / 3680VA	4000 W / 4000 VA	5000W / 5000VA	6000W / 6000VA
Peak output power	8400 VA, 10s				
Protection & Function					
Grid monitoring	Yes				
DC reverse polarity protection	Yes				
AC short-circuit protection	Yes				
Leakage current protection	Yes				
DC switch(solar)	Yes				
DC overcurrent protection (Battery)	Yes				
Surge protection	DC Type II /AC Type II				
PID Zero function	Yes				
Parallel operation on grid port / Max. No of inverters	Master-slave mode / 3				
Optimizer compatibility *	Optional				
General data					
Topology (Solar / Battery)	Transformerless / Transformerless				
Degree of protection	IP65				
Dimensions (W * H * D)	490 mm * 340 mm * 170 mm				
Weight	18.5 kg				
Mounting method	Wall-mounting bracket				
Operating ambient temperature range	-25 °C to 60 °C				
Allowable relative humidity range	0 % - 100 %				
Cooling method	Natural convection				
Max. operating altitude	4000 m				
Noise emission	< 45dB (A)				
Display	LED digital display & LED indicator				
Communication	RS485 / Ethernet / WLAN / CAN				
DI / DO	DI * 4 / DO * 1 / DRM				
DC connection type	MC4 (PV) / Evo2 Compatible (Battery)				
AC connection type	Plug and Play				
Grid compliance	IEC/EN 62109-1, IEC/EN 62109-2, IEC62116, IEC61727, IEC/EN 61000-3-11, IEC/EN 61000-3-12, EN 62477-1, AS/NZS 4777.2:2020, EN 50549-1, CEI 0-21, G98 / G99, UNE 217002:2020, NTS V2 TypeA, C10/26				

* For optimizer compatibility, please consult Sungrow before placing an order. ** To optimise the generation, the PV system must be within the rated MPPT voltage range.

*** If the max. MPPT input voltage is between 560V and 600V the inverter will shutdown.

**** Sungrow's DC/AC ratio recommended is mentioned in the Manufacturer self-declaration.



SBR064/096/128/160/ 192/224/256

High Voltage LFP Battery



HIGH-PERFORMANCE

- Up to 30 A continuous charging and discharging current with high efficiency
- Up to 100 % usable energy



SAFETY

- Lithium iron phosphate battery
- Multi-stages protection design plus authorized certification



FLEXIBILITY

- Extendable during lifetime
- Support 2-8 modules per unit, 6.4-25.6 kWh capacity range



EASY INSTALLATION

- Compact and Light, single person installation
- Plug and Play, wiring-less connection between modules



Type designation	SBR064 ³	SBR096	SBR128	SBR160	SBR192	SBR224	SBR256
Technical properties							
	2 modules	3 modules	4 modules	5 modules	6 modules	7 modules	8 modules
System Data							
Battery Type	LiFePO4 Prismatic Cell						
Battery Module	3.2 kWh, 33 kg						
Energy (usable) ¹	6.4 kWh	9.6 kWh	12.8 kWh	16 kWh	19.2 kWh	22.4 kWh	25.6 kWh
Nominal voltage	128 V	192 V	256 V	320 V	384 V	448 V	512 V
Operating voltage	108 – 146 V	162 – 219 V	216 – 292 V	270 – 365 V	324 – 438 V	378 – 511 V	432 – 584 V
Rated DC power	3.84 kW	5.76 kW	7.68 kW	9.60 kW	11.52 kW	13.44 kW	15.36 kW
Max. charging/discharging current: continuous	30 A						
Depth of Discharge	Max. 100 % DOD (settable)						
Short circuit current	3500 A						
Display	SOC indicator, status indicator						
Communication interface	CAN						
Protection							
Over / under voltage protection	Yes						
Over current protection	Yes						
Over / under temperature protection	Yes						
DC breaker	Yes						
General Data							
Dimensions (W*H*D)	625*545*330 mm	625*545*330 mm	625*675*330 mm	625*805*330 mm	625*935*330 mm	625*1065*330 mm	625*1195*330 mm
Weight	89 kg	114 kg	147 kg	180 kg	213 kg	246 kg	279 kg
Installation location	Indoor / Outdoor						
Mounting method	Floor stand						
Operating ambient temperature range	Charge: 0 to 50 °C Discharge: -20 to 50 °C						
Degree of protection	IP55						
Allowable relative humidity range	0% to 95% (non-condensing)						
Max. operating altitude	4000 m						
Cooling method	Natural convection						
Certificates	CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50, IEC62477, IEC63056, IEC61000, UKCA						
Warranty ²	10 Years						

¹ Test conditions: 25 °C, 100 % depth of discharge (DOD), 0.2C charge & discharge

² Refer to battery warranty letter for conditional application.

³ SBR064 consists of 2 battery modules and 1 empty module.

INCLUDES FREE BIRD PROTECTION



MRS BROWN

We already had solar panels installed but we're very troubled with pigeons. Deege installed the netting, the men were efficient extremely polite and tidy workers. Delighted to say we have no constant cooing now. Would highly recommend.



PROTECT BOTH YOUR INVESTMENT & WILDLIFE



ENHANCE THE AESTHETICS OF YOUR SYSTEM



MINIMISE CLEANING AND MAINTENANCE COSTS

AC007UK-01 L1

AC011E-01 L1

7/11kW AC-Wallbox for electric vehicles



RELIABLE AND VERSATILE

- Type2 charging plug - compatible with standard electric vehicles
- Integrated 6mA DC fault detection



USER FRIENDLY

- Premounted 7 m Type 2 charging cable
- Space-saving dimensions for wall mounting or optional pole-mounting



SMART AND EASY MANAGEMENT

- Control and visualization via iEnergyCharge
- Capable for OCPP 1.6 communication



PRACTICAL AND INTUITIVE

- RFID access control with 2 cards included
- Authentication via App or RFID

Type designation	AC007UK-01 L1	AC011E-01 L1
AC Input and Output		
Max. charge power	7.4 kW	11 kW
Nominal Voltage	230 V	400 V
Nominal grid frequency	50 / 60 Hz	50 / 60 Hz
Max. current	32A single-phase	16A three-phase
Charge connector	Plug Type 2	Plug Type 2
Cable cross-section (minimum)	3 * 6 mm ²	5 * 2.5mm ²
Cable Length	7 m	7 m
Protection Devices		
Residual current device	6 mA DC	
Over/Under voltage protection	Yes	
Over load protection	Yes	
Over temperature protection	Yes	
Surge protection	II	
Overvoltage category	III (grid) / II (car)	
General Data		
Dimensions (W*H*D)	205 * 310 * 92 mm	
Weight	4.2 kg	3.8 kg
Mounting method	Wall-Mounting / Pole-Mounting (optional)	
Degree of protection	IP 65	
Operating ambient temperature range	-30 to 50 °C	
Allowable relative humidity range (non-condensing)	5 % to 95 %	
Cooling method	Natural convection	
Max. operating altitude	2000 m	
Grid type	TN / TT	
Display	LED indicator	
Monitoring	iEnergyCharge App	
Communication	WLAN	
Charging protocol	OCPP 1.6	
Power consumption for standby	< 5 W	
Start Mode	RFID card / App	
Standard compliance	EN/IEC 61851-1; EN/IEC 61851-21-2; UKCA (for UK version); No.1467 (for UK version)	
Warranty	3 years (standard)	