AIKO

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

25 year Product Warranty

30 year Performance Warranty

ESG Transparency Award 2023/24 Excellence

inter solar award 2023 WINNER

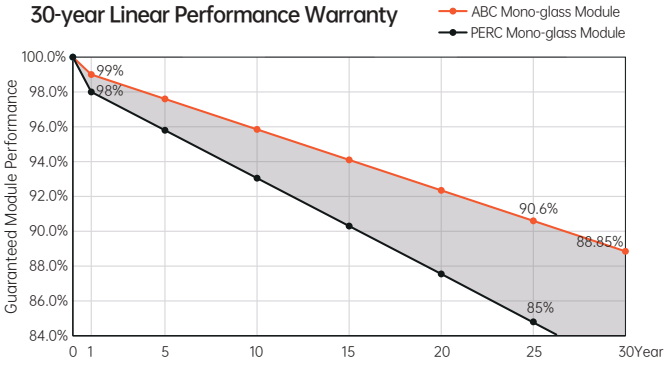
reddot winner 2023

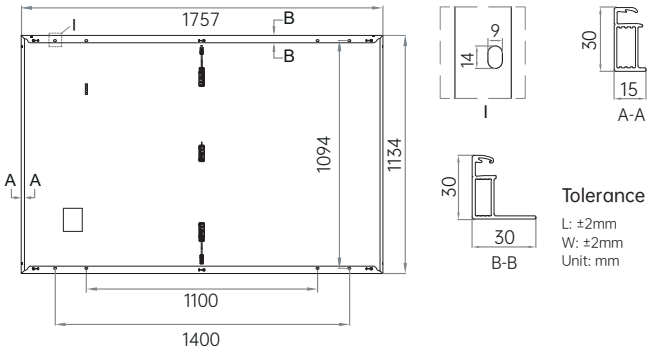
CE CQC Munich RE

Neostar 2S

AIKO-A-MAH54Mb

460W	23.1%	⩽1%	⩽0.35%
Output	Efficiency	First-year Degradation	Annual Degradation from Year 2-30





Electrical Characteristics (STC: AM1.5 1000W/m² 25℃ NOCT: AM1.5 800W/m² 20℃ 1m/s)

Power Tolerance:0~ + 3%

Module Type	AIKO-A440-MAH54Mb		AIKO-A445-MAH54Mb		AIKO-A450-MAH54Mb		AIKO-A455-MAH54Mb		AIKO-A460-MAH54Mb	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	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	4mm²(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℃ - +85℃
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

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SolarEdge Home Hub Inverter

Single Phase, for Europe

SE2500H / SE3000H / SE3680H / SE4000H / SE5000H / SE6000H / SE8000H / SE10000H

HOME BACKUP

Single phase inverter for storage and backup applications

- The ultimate home energy manager in charge of PV production, battery storage, backup operation during a power outage*, and smart energy devices
- Record-breaking up to 99% weighted efficiency with up to 200% DC oversizing
- Integrates seamlessly with the complete SolarEdge Home ecosystem, through SolarEdge Home Network
- Small, lightweight, and easy to install
- Advanced safety features with integrated arc fault protection
- Enables module-level monitoring and full visibility of battery status, PV production, and self-consumption data
- A scalable solution that supports future homeowner needs through easy connection to a growing ecosystem of products

*Requires additional hardware and firmware version upgrade.

SolarEdge Home Hub Inverter

Single Phase, for Europe

SE2500H / SE3000H / SE3680H / SE4000H / SE5000H / SE6000H

Applicable to inverters with part number	SEXXXXH-RWBMNBF54						Units
	SE2500H(1)	SE3000H	SE3680H	SE4000H	SE5000H	SE6000H	
OUTPUT – AC ON GRID							
Rated AC Power	2500	3000	3680	4000	5000(2)	6000	VA
Maximum AC Power Output	2500	3000	3680	4000	5000(2)	6000	VA
AC Output Voltage (Nominal)	220 – 230						Vac
AC Output Voltage (Range)	184 – 264.5						Vac
AC Frequency Range (Nominal)	50 ± 5						Hz
Maximum Continuous Output Current RMS	12.0	14.0	16.0	18.5	23.0	27.5	A
Total Harmonic Distortion (THD)	< 3						%
Power Factor	1, adjustable -0.9 to 0.9						
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes						
Charge Battery from AC (if allowed)	Yes						
Typical Nighttime Power Consumption	< 2.5						W
OUTPUT – AC BACKUP							
Rated AC Power in Backup Operation	6000						W
AC Output Voltage (Nominal)	220 – 230						Vac
AC Output Voltage (Range)	184 – 264.5						Vac
AC Frequency	50/60 ± 5						Hz
Maximum Continuous Output Current in Backup Operation	27.5						A
INPUT – DC (PV AND BATTERY)							
Transformer-less, Ungrounded	Yes						
Maximum Input Voltage	480						Vdc
Nominal DC Input Voltage	380						Vdc
Ground-Fault Isolation Detection	600kΩ Sensitivity per Unit						
Maximum DC PV Power	5000	6000	7360	8000	10,000	12,000	W
Maximum Input Current	7.0	9.0	10.5	11.5	13.5	16.5	Adc
Isc PV	7.0	9.0	10.5	11.5	13.5	16.5	Adc
Maximum Inverter Efficiency	99.2						%
European Weighted Efficiency	98.3	98.8			99		%
Reverse-Polarity Protection	Yes						
BATTERY STORAGE							
Supported Battery Models	SolarEdge Home Battery 400V						
Number of Batteries per Inverter	Up to 3						
Continuous Power	5000W per battery, total continuous discharge power is limited up to the inverter rated AC power for on-grid and backup applications						W
SMART ENERGY CAPABILITIES							
Backup and Battery Storage	With Backup Interface (purchased separately) for service up to 100A; up to 3 SolarEdge single phase inverters(3)						
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, Wi-Fi (optional), LTE (optional), SolarEdge Home Network						
Integrated AC, DC and Communication Connection Unit	Built-in						
Inverter Commissioning	Inverter Commissioning with the SetApp mobile application using built-in Wi-Fi Access Point for local connection						
Arc Fault Protection	Integrated, user configurable (according to UL 1699B:2018)						
STANDARD COMPLIANCE							
Safety	IEC-62109						
Grid Connection Standards	VDE-AR-N 4105, Tor Erzeuger Typ A, EN 50549-1, CEI 0-21, G98 Type A, G98 NI Type A, RD 1699 / RD 413 / NTS, VDE-V 0126-1-1, VFR 2019, C10/11, EN 50438, G100						
Electromagnetic Compatibility (EMC)	IEC 61000-6-2, IEC 61000-6-3, IEC 61000-3-11, IEC 61000-3-12, EN 55011						
INSTALLATION SPECIFICATIONS							
AC Output – Supported Cable Diameter	9 – 16						mm
AC – Supported Wire Cross Section	1 – 13						mm^2
Dimensions with Connection Unit (H x W x D)	459 x 370 x 154						mm
DC Input	2 x MC4 pairs for PV input; 1 x MC4 pair for battery input						
Weight	12						kg
Cooling	Natural convection						
Noise	< 25						dBA
Operating Temperature Range	-40 to +60						°C
Protection Rating	IP65 – outdoor and indoor						

(1) Only available in Poland, France, and Hungary. For details about the inverters approved for installation in your country, see here.
(2) 4600VA AC / 7130VA DC in Germany.
(3) Firmware update required.

SolarEdge Home Hub Inverter

Single Phase, for Europe

SE8000H[4] / SE10000H[4]

Applicable to inverters with part number	SEXXXXH-RWBMNBF54		Units
	SE8000H	SE10000H	
OUTPUT – AC ON GRID			
Rated AC Power	8000	10,000	VA
Maximum AC Power Output	8000	10,000	VA
AC Output Voltage (Nominal)	220 – 230		Vac
AC Output Voltage (Range)	184 – 264.5		Vac
AC Frequency Range (Nominal)	50/60 ± 5		Hz
Maximum Continuous Output Current RMS	36.5	45.5	A
Total Harmonic Distortion (THD)	< 3		%
Power Factor	1, adjustable -0.8 to 0.8		
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes		
Charge Battery from AC (if allowed)	Yes		
Typical Nighttime Power Consumption	< 2.5		W
OUTPUT – AC BACKUP			
Rated AC Power in Backup Operation	10,000		W
AC Output Voltage (Nominal)	220 – 230		Vac
AC Output Voltage (Range)	184 – 264.5		Vac
AC Frequency	50/60 ± 5		Hz
Maximum Continuous Output Current in Backup Operation	45.5		A
INPUT – DC (PV AND BATTERY)			
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage	480		Vdc
Nominal DC Input Voltage	380		Vdc
Ground-Fault Isolation Detection	600kΩ Sensitivity per Unit		
Maximum DC PV Power	16,000	20,000	W
Maximum Input Current	20.5	25.5	Adc
Isc PV	20.5	25.5	Adc
Maximum Inverter Efficiency	99.2		%
European Weighted Efficiency	99		%
Reverse-Polarity Protection	Yes		
BATTERY STORAGE			
Supported Battery Types	SolarEdge Home Battery 400V		
Number of Batteries per Inverter	Up to 3		
Continuous Power	5000W per battery[5]		W
SMART ENERGY CAPABILITIES			
Backup and Battery Storage	With Backup Interface (purchased separately) for service up to 100A; up to 3 SolarEdge single phase inverters[6]		
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485, Ethernet, Wi-Fi (optional), LTE (optional), SolarEdge Home Network		
Integrated AC, DC and Communication Connection Unit	Built-in		
Inverter Commissioning	Inverter Commissioning with the SetApp mobile application using built-in Wi-Fi Access Point for local connection		
Arc Fault Protection	Integrated, user configurable (according to UL 1699B:2011)		
STANDARD COMPLIANCE			
Safety	IEC-62109		
Grid Connection Standards	VDE-AR-N 4105, Tor Erzeuger Typ A, EN 50549-1, CEI 0-21, G98 Type A, G98 NI Type A, RD 1699 / RD 413 / NTS, VDE-V 0126-1-1, VFR 2019, C10/11, EN 50438, G100		
Electromagnetic Compatibility (EMC)	IEC 61000-6-2, IEC 61000-6-3, IEC 61000-3-11, IEC 61000-3-12, EN 55011		
INSTALLATION SPECIFICATIONS			
AC Output – Supported Cable Diameter	9 – 16		mm
AC – Supported Wire Cross Section	1 – 13		mm^2
Dimensions with Connection Unit (H x W x D)	535 x 370 x 185		mm
DC Input	3 x MC4 pairs for PV input; 1 x MC4 pair for battery input		
Weight	19.6		kg
Cooling	Natural convection		
Noise	< 50		dBA
Operating Temperature Range	-40 to +60		°C
Protection Rating	IP65 – outdoor and indoor		

(4) Only available in the United Kingdom, Spain, and France. For details about the inverters approved for installation in your country, see here.
(5) The total continuous discharge power is limited up to the inverter rated AC power for on-grid and backup applications.
(6) Firmware update required.

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.

CE

solaredge

Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

POWER OPTIMIZER

Enabling PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules

* Functionality subject to inverter model and firmware version

solaredge

Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

	S440	S500	S500B	S650B	UNIT
INPUT					
Rated Input DC Power[1]	440[2]	500[3]		650	W
Absolute Maximum Input Voltage (Voc)	60		125	85	Vdc
MPPT Operating Range	8 – 60		12.5 – 105	12.5 – 85	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5[2]	15			Adc
Maximum Efficiency	99.5				%
Weighted Efficiency	98.6				%
Overvoltage Category	II				
OUTPUT DURING OPERATION					
Maximum Output Current	15				Adc
Maximum Output Voltage	60		80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimizer	1 ± 0.1				Vdc
STANDARD COMPLIANCE[4]					
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011				
Safety	IEC62109-1 (class II safety), UL1741				
Material	UL94 V-0, UV Resistant				
RoHS	Yes				
Fire Safety	VDE-AR-E 2100-712:2018-12				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage	1000				Vdc
Dimensions (W x L x H)	129 x 155 x 30		129 x 165 x 45		mm
Weight	720		790		gr
Input Connector	MC4[5]				
Input Wire Length	0.1				m
Output Connector	MC4				
Output Wire Length	(+) 2.3, (-) 0.10				m
Operating Temperature Range[6]	-40 to +85				˚C
Protection Rating	IP68				
Relative Humidity	0 – 100				%

(1) Rated power of the module at STC will not exceed the Power Optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For installations after April 1st, 2024, the Rated Input DC Power for S440 is 490W, and the Maximum Isc of Connected PV Module is 15A.
(3) For installations after April 1st, 2024, the Rated Input DC Power for S500 and S500B is 550W.
(4) For details about CE compliance, see Declaration of Conformity – CE.
(5) For other connector types please contact SolarEdge.
(6) Power derating is applied for ambient temperatures above +85°C for S440 and S500, and for ambient temperatures above +75°C for S500B. Refer to the Power Optimizers Temperature Derating technical note for details.

PV System Design Using a SolarEdge Inverter[7]		SolarEdge Home Wave Inverter Single Phase	SolarEdge Home Short String Inverter Three Phase	Three Phase for 230/400V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440, S500	8	9	16	18	
	S500B, S650B	6	8	14		
Maximum String Length (Power Optimizers)		25	20	50		
Maximum Continuous Power per String		5700	5625	11,250	12,750	W
Maximum Allowed Connected Power per String[8] (In multiple string designs, the maximum is permitted only when the difference in connected power between strings is 2,000W or less)		6800[9]	See[8]	13,500	15,000	W
Parallel Strings of Different Lengths or Orientations		Yes				

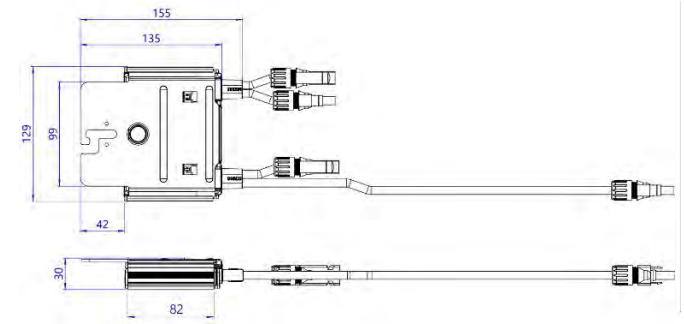
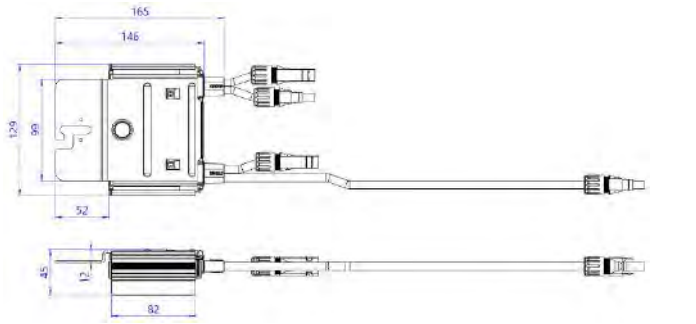
(7) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.
(8) If the inverter's rated AC power ≤ the maximum continuous power per string, then the maximum connected power per string will be able to reach up to the inverter's maximum input DC power. Refer to the Single String Design Guidelines application note for details.
(9) For inverters with a rated AC power ≥ 8000W that are connected to at least two strings.

CE RoHS

/ Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

S440, S500, S500B[10] (Flat Bracket)	S500B[10], S650B (Bent Bracket)
	

(10) S500B has either a flat bracket or a bent bracket. S500B-1GM4M**R**M has a flat bracket, and S500B-1GM4M**B**M has a bent bracket.

CE RoHS

SolarEdge Home Battery 400V

For Europe

BAT-10K1P

BATTERIES

Optimized for SolarEdge Home Wave and StorEdge inverter technology

- DC coupled battery featuring outstanding overall system efficiency, generating more energy to store and use for on-grid and backup* power applications
- Integrates seamlessly with the complete SolarEdge Home ecosystem using SolarEdge Home Network, offering a single source for warranty, support, and training, to streamline logistics & operations
- Scalable solution for increased power and capacity with multiple SolarEdge inverters and batteries
- Includes multiple safety features for battery protection
- Solar, storage, EV charging, and smart devices all monitored and managed by a single app to an optimized production, consumption, and backup* power
- Simple plug and play installation, with automatic SetApp-based configuration
- Flexible installation - wall or floor mount, indoor or outdoor
- Wireless communication to the inverter, reducing wiring, labor, and installation faults

* Backup applications are subject to local regulations and may require additional components and firmware upgrade.

SolarEdge Home Battery 400V

For Europe

BAT-10K1P

BAT-10K1PS0B-x2			
OUTPUT			
Usable energy (100% depth of discharge)		9700	Wh
Continuous Output Power		5000	W
Peak Output Power in Backup (for 10 seconds)		7500	W
Peak Roundtrip Efficiency		> 94.5	%
Warranty(1)		10	Years
Voltage Range		350 – 450	Vdc
ADDITIONAL FEATURES			
Compatible Inverters		SolarEdge Home Wave Inverter, StorEdge Single Phase Inverter with HD-Wave Technology	
Batteries Per Inverter		Up to 3(2)	
Communication Interfaces		Wireless and RS485(3)	
STANDARD COMPLIANCE			
Certification	Cell	IEC62619	
	Battery	IEC61010-1, IEC62619, UN38.3	
Emissions		IEC61000-6-1, IEC61000-6-3	
INSTALLATION SPECIFICATIONS			
Dimensions (W x H x D)		790 x 1179 x 250	mm
Weight		119	kg
Mounting		Floor(4) or wall mount(5)	
Operating Temperature(6)		-10 to +50	°C
Storage Temperature (more than 3 months)		-10 to +30	°C
Storage Temperature (less than 3 months)		-30 to +60	°C
Enclosure Protection		IP55 – indoor and outdoor	
Maximum Altitude		2000	m
Cooling		Natural convection	
Noise at 1m Distance		< 25	dBA

(1) For warranty details, see the SolarEdge Home Battery Limited Warranty.
(2) Installations with multiple SolarEdge Home Batteries require a pair of branch connectors (purchased separately) per battery excluding the last battery.
(3) The SolarEdge Home Battery is designed for use with SolarEdge Home Network for wireless communication. The inverter might require a matching SolarEdge Home Network plug-in. Using RS485 could reduce the usable energy to 9500Wh.
(4) The floor stand is purchased separately. One floor stand is required per SolarEdge Home Battery. See the Accessory P/N table below.
(5) Wall mount installation requires handles that should be purchased separately. See the Accessory P/N table below.
(6) Please note that operating the SolarEdge Home Battery at extreme temperatures for extended durations of time may void the SolarEdge Home Battery's warranty coverage. See the SolarEdge Home Battery Limited Warranty.

SolarEdge Home Battery – Accessories (purchased separately)	
Accessory	**P/N**
Floor stand	IAC-RBAT-FLRSTD-01
Reusable lifting handles	IAC-RBAT-HANDLE-01
Branch connector set (includes 10 pairs of DC + and DC - connectors) Required for installations with multiple SolarEdge Home Battery batteries with a single inverter	IAC-RBAT-RWYCBL-01
SolarEdge Home Network Plug-in	SolarEdge Home Network plug-in datasheet

CE RoHS

INCLUDES **FREE** BIRD PROTECTION

5.0

★★★★★

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**