

SOLAREEDGE RESIDENTIAL POWER OPTIMISERS

S440, S500



The SolarEdge Power Optimiser is a DC/DC converter that connects to a single panel to monitor and control its individual performance. This level of control mitigates panel mismatch losses due to partial shading and improves the performance of the PV system. It also allows for more flexible system designs and greater roof space utilisation.

- Specifically designed to work with SolarEdge inverters.
- Detects abnormal PV connector behaviour, preventing potential safety issues.*
- Panel-level voltage shutdown for installer and firefighter safety.
- Superior efficiency (99.5%) mitigates all types of panels mismatch-loss, from manufacturing tolerance to partial shading.
- Flexible system design and compatible with bifacial PV panels for maximum space utilisation.
- Faster installations with simplified cable management and easy assembly using a single bolt.

* Functionality subject to inverter model and firmware version.

How you benefit:



HIGH EFFICIENCY

Superior efficiency of up to 99.5%, generating more power from your PV system.



FLEXIBLE DESIGN

Individual panel monitoring and management allow flexible designs and increased power production.



SAFE OPERATION

Automatic panel-level voltage shutdown feature for installer and firefighter safety.



INNOVATIVE

Next generation maintenance with panel-level monitoring.



SOLAHART WARRANTY

Enjoy a 10-year warranty, for peace of mind.

MODELS	S440	S500	Unit
INPUT			
Rated Input DC Power ⁽¹⁾	440	500	W
Absolute maximum input voltage (V _{oc})		60	Vdc
MPPT operating range		8 - 60	Vdc
Maximum short circuit current (I _{sc}) of connected PV module	14.5	15	Adc
Maximum efficiency		99.5	%
Weighted efficiency		98.8	%
Oversvoltage category		II	
Input over current protection		15	Adc
OUTPUT DURING OPERATION			
Maximum output current		15	Adc
Maximum output voltage		60	Vdc
OUTPUT DURING STANDBY (POWER OPTIMISER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety output voltage per power optimiser		1	Vdc
STANDARD COMPLIANCE			
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3		
Safety	IEC62109-1 (class II safety), UL1741		
RoHS	Yes		
Fire Safety	VDE-VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Maximum allowed system voltage		1000	Vdc
Dimensions (WxLxH)		129 x 155 x 30	mm
Weight (including cables)		655 / 1.5	gr / lb
Input Connector		MC4 ⁽²⁾	
Input Wire Length		0.1	m
Output connector		MC4	
Output wire length		(+) 2.3, (-) 0.10	m
Operating temperature range ⁽³⁾		-40 to +85	°C
Protection rating		IP68 / NEMA6P	
Relative humidity		0 - 100	%
Manufacturer's warranty		10 Years*	
Solahart Warranty		10 Years*	

⁽¹⁾ Rated power of the panel at STC will not exceed the Power Optimiser Rated Input DC Power. Modules with upto +5% power tolerance are allowed.

⁽²⁾ For other connector types please contact Solahart.

⁽³⁾ For ambient temperature above +70°C/+158°F power de-rating is applied. Refer to Power Optimisers Temperature De-Rating Technical Note for more details.

PV System Design Using a Solarhart Inverter	Genesis / Energy Hub	Three Phase Residential	Three Phase Commercial	Unit
Minimum String Length	8	9	16	
Maximum String Length	25		50	
Maximum nominal power per string ⁽⁴⁾	5700 (6000 with SE8250H / SE10000H)	5625	11250 ⁽⁵⁾	W

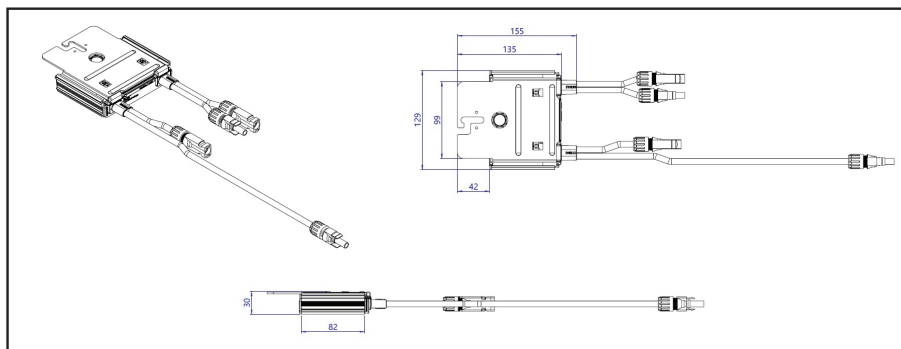
⁽⁴⁾ If the inverters rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power.

⁽⁵⁾ When using more than a single string, it is allowed to install up to 13500W per string when the maximum power difference between each string is up to 2000W.

⁽⁶⁾ It is not allowed to mix S-series and P-series Power Optimisers in new installations.

* For full details see the manufacturer's warranty statement.

* For full details see Solahart Owner's Guide & Installation Instructions.



Specifications and designs included in this data sheet are subject to change without notice.