

## ITEM OPPORTUNITY SYNOPSIS

<b>Scouting Number:</b>	2024-205
<b>Name of the item to be scouted:</b>	Solar Power Optimizers
<b>State item to be used in:</b>	New Hampshire
<b>Describe the Item:</b>	
<b>Please describe the item application/the end use of the item.</b>	Equivalent to S500B SolarEdge Optimizers
<b>Supplier Information:</b>	
<b>Type of Supplier Being Sought (select from the list below):</b>	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
<b>Reason for Scouting Submission (select from the list below)</b>	
2nd Supplier	
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	x
Other (Please Specify)	
<b>Summary of Technical Specifications and Performance Requirements:</b>	
<b>Describe the manufacturing processes (elaborate to provide as much detail as possible)</b>	Injection molded, Cabling, Electronics
<b>Provide dimensions / size / tolerances / performance specifications of the item</b>	See attached specs for the SolarEdge
<b>List required materials needed to make the product, including materials of product components, if applicable</b>	Plastics, Electronics, Wiring
<b>Are there applicable certification requirements?</b>	
Yes	
No	x
Please explain:	
<b>Are there any applicable regulations that apply to the production of this item?</b>	
Yes	
No	x
Please explain:	
<b>Are there any other standards / requirements?</b>	
Yes	
No	x
Please explain:	
<b>NAICS CODES:</b>	
NAICS 1	221114 Solar Electric Power Generation
NAICS 2	
<b>Additional Comments:</b>	
<b>Additional technical comments:</b>	
<b>Volume and Pricing:</b>	
<b>Estimated Potential Business Volume (i.e. #units per day, month, year):</b>	156 units
<b>Estimated Target Price/Unit Cost Information:</b>	\$123/ea
<b>Delivery Requirements:</b>	
<b>When is it needed by? (Immediate, 30 days, 6 months, etc.)</b>	3 months
<b>Describe packaging requirements (i.e. individually/group packaging, etc.)</b>	Boxed to limit damage
<b>Where will this item be shipped?</b>	New Hampshire
<b>Additional Comments:</b>	
<b>Is there other information you would like to include?</b>	

---

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

\* Functionality subject to inverter model and firmware version

# / Power Optimizer

## For Residential Installations

### S440 / S500 / S500B / S650B

	S440	S500	S500B	S650B	UNIT
<b>INPUT</b>					
Rated Input DC Power <sup>(1)</sup>	440 <sup>(2)</sup>	500 <sup>(3)</sup>		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 <sup>(2)</sup>	15			Adc
Maximum Efficiency					99.5
Weighted Efficiency					98.6
Overvoltage Category					II
<b>OUTPUT DURING OPERATION</b>					
Maximum Output Current					15
Maximum Output Voltage	60		80		Vdc
<b>OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)</b>					
Safety Output Voltage per Power Optimizer					1 ± 0.1
<b>STANDARD COMPLIANCE<sup>(4)</sup></b>					
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
<b>INSTALLATION SPECIFICATIONS</b>					
Maximum Allowed System Voltage					1000
Dimensions (W x L x H)	129 x 155 x 30		129 x 165 x 45		mm
Weight	720		790		gr
Input Connector					MC4 <sup>(5)</sup>
Input Wire Length					0.1
Output Connector					MC4
Output Wire Length					(+) 2.3, (-) 0.10
Operating Temperature Range <sup>(6)</sup>					-40 to +85
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 1<sup>st</sup>, 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 1<sup>st</sup>, 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 <sup>(7)</sup>	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 <sup>(8)</sup> (In multiple string designs, the maximum is permitted only when the difference in connected power between strings is 2,000W or less)	6800 <sup>(9)</sup>	See <sup>(8)</sup>	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.

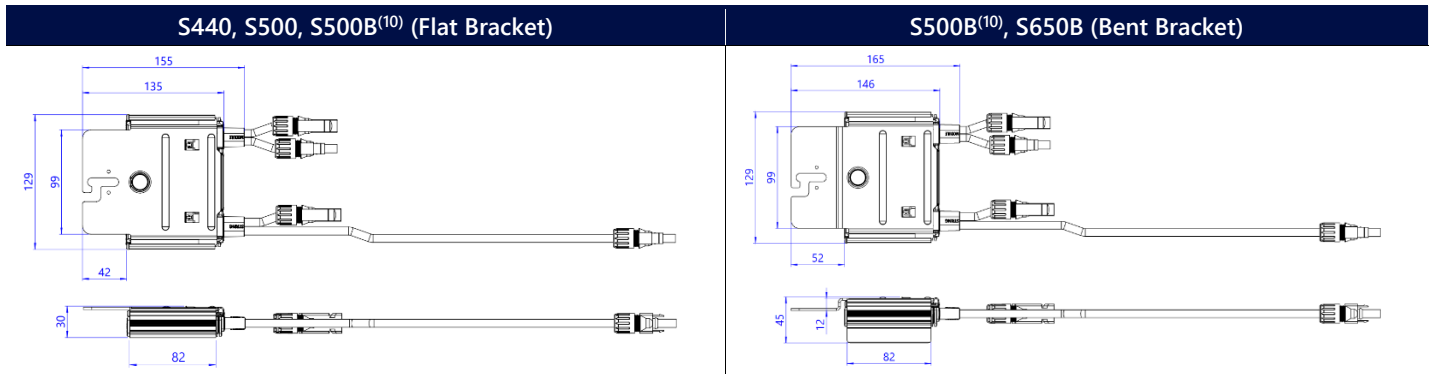
(8) If the inverter's rated AC power ≤ the maximum continuous power per string, then the maximum connected power per string will be able to reach up to the inverter's maximum input DC power. Refer to the [Single String Design Guidelines](#) application note for details.

(9) For inverters with a rated AC power ≥ 8000W that are connected to at least two strings.

# / Power Optimizer

## For Residential Installations

S440 / S500 / S500B / S650B



(10) S500B has either a flat bracket or a bent bracket. S500B-1GM4MRM has a flat bracket, and S500B-1GM4MBM has a bent bracket.