Power Optimizer For Residential Installations

S440, S500



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

/ Power Optimizer For Residential Installations

S440, S500

	S440	S500	UNIT	
Rated Input DC Power ⁽¹⁾	440	500	W	
Absolute Maximum Input Voltage (Voc)	60		Vdc	
MPPT Operating Range	8 - 60		Vdc	
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5	15	Adc	
Maximum Efficiency	99.5			
Weighted Efficiency	98.6			
Overvoltage Category	II			
OUTPUT DURING OPERATION				
Maximum Output Current	15			
Maximum Output Voltage	60			
OUTPUT DURING STANDBY (POWER OPTIMIZER DISC	ONNECTED FROM INVERTER OR IN	IVERTER OFF)		
Safety Output Voltage per Power Optimizer	1			
STANDARD COMPLIANCE				
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC	C61000-6-3, CISPR11, EN-55011		
Safety	IEC62109-1 (class II safety), UL1741			
Material	UL94 V-0, UV Resistant			
RoHS	Yes			
Fire Safety	VDE-AR-E 2100-712:2013-05			
INSTALLATION SPECIFICATIONS				
Maximum Allowed System Voltage	1000			
Dimensions (W x L x H)	129 x 155 x 30		mm	
Weight (including cables)	655 / 1.5			
Input Connector	MC4 ⁽²⁾			
Input Wire Length	0.1		m	
Output Connector	MC4			
Output Wire Length	(+) 2.3, (-) 0.10			
Operating Temperature Range ⁽³⁾	-40 to +85			
Protection Rating	IP68 / NEMA6P			
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

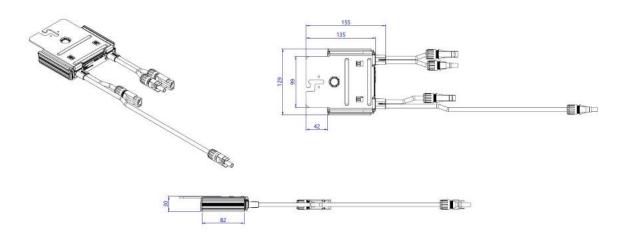
⁽²⁾ For other connector types please contact SolarEdge
(3) For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Usir Inverter	ng a SolarEdge	Single Phase HD-Wave	Three Phase	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440, S500	8	16	18	
Maximum String Length (Power Optimizers)		25	50		
Maximum Nominal Power per String ⁽⁴⁾		5700	11250 ⁽⁵⁾	12750 ⁽⁶⁾	W
Parallel Strings of Different Lengths or Orientations		Yes			

⁽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

⁽⁷⁾ It is not allowed to mix S-series and P-series Power Optimizers in new installations



power Refer to: https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf
(5) For the 230/400V grid: it is allowed to install up to 13,500W per string when the maximum power difference between each string is 2,000W
(6) For the 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W