Power Optimizer

For North America

S440

POWER OPTIMIZER



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
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

* Functionality subject to inverter model and firmware version

solaredge

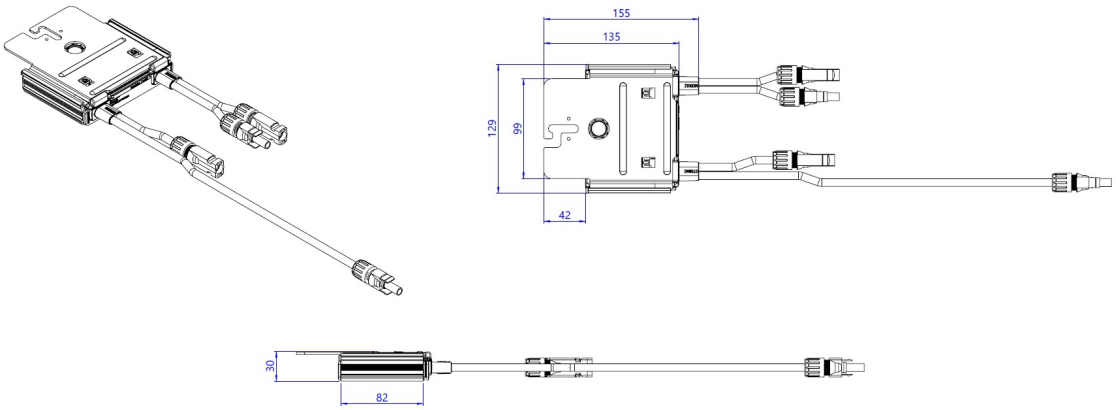
/ Power Optimizer
For North America
S440

	S440	Unit
INPUT		
Rated Input DC Power(1)	440	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	Adc
Maximum Efficiency	99.5	%
Weighted Efficiency	98.6	%
Overvoltage Category	II	
OUTPUT DURING OPERATION		
Maximum Output Current	15	Adc
Maximum Output Voltage	60	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)		
Safety Output Voltage per Power Optimizer	1	Vdc
STANDARD COMPLIANCE		
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020	
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3	
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	Vdc
Dimensions (W x L x H)	129 x 155 x 30 / 5.07 x 6.10 x 1.18	mm / in
Weight (including cables)	655 / 1.5	gr / lb
Input Connector	MC4(2)	
Input Wire Length	0.1 / 0.32	m / ft
Output Connector	MC4	
Output Wire Length	(+) 2.3, (-) 0.10 / (+) 7.54, (-) 0.32	m / ft
Operating Temperature Range(3)	-40 to +85	˚C
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 Using a SolarEdge Inverter		Single Phase HD-Wave	Three Phase 208V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440	8	10	18	
Maximum String Length (Power Optimizers)		25		50(4)	
Maximum Nominal Power per String(5)		5700 (6000 with SE7600-US - SE11400-US)	6000(6)	12750(7)	W
Parallel Strings of Different Lengths or Orientations		Yes			

(4) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
(5) 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
Refer to: https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf
(6) For the 208V grid: it is allowed to install up to 7,800W per string, two minimum string count are required and up to 7,200W without minimum string count. The maximum power difference between each string is 1,000W
(7) 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
(8) It is not allowed to mix S-series and P-series Power Optimizers in new installations



© SolarEdge Technologies, Inc. All rights reserved. SOLAREDGE, the SolarEdge logo, OPTIMIZED BY SOLAREDGE are trademarks or registered trademarks of SolarEdge Technologies, Inc. All other trademarks mentioned herein are trademarks of their respective owners. Date: 11/2021 DS-000018-2.3-NA. Subject to change without notice.

Intertek RoHS