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# Power Optimizer

## For North America

P860 / P960 / P1101



**POWER OPTIMIZER**

### PV power optimization at the module-level

The most cost-effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string lengths possible
- Fast installation with a single bolt
- Advanced maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

# / Power Optimizer For North America

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Power Optimizer Model (Typical Module Compatibility)	P860 (for 2 x 72 cell modules)		P960 (for 2 x 72 cell modules)		P1101 (for up to 2 x high power or bi-facial modules)	
<b>INPUT</b>						
Rated Input DC Power <sup>(1)</sup>	860		960		1100	W
Connection Method	Dual input for independently connected modules <sup>(2)</sup>				Single input for series connected modules	
Absolute Maximum Input Voltage (Voc at lowest temperature)	60				125	Vdc
MPPT Operating Range	12.5 - 60				12.5 - 105	Vdc
Maximum Short Circuit Current (Isc)	22		23.2		14.1	Adc
Maximum Short Circuit Current per Input (Isc)	11		11.6		-	Adc
Maximum Efficiency					99.5	%
Weighted Efficiency					98.6	%
Overvoltage Category					II	
<b>OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)</b>						
Maximum Output Current					18	Adc
Maximum Output Voltage					80	Vdc
<b>OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)</b>						
Safety Output Voltage per Power Optimizer					1 ± 0.1	Vdc
<b>STANDARD COMPLIANCE</b>						
Photovoltaic Rapid Shutdown System					Compliant with NEC 2014, 2017, 2020	
EMC					FCC Part 15 Class A, IEC61000-6-2, IEC61000-6-3	
Safety	IEC62109-1 (class II safety), UL1741			IEC62109-1 (class II safety), UL1741, UL3741		
Material					UL94 V-0, UV resistant	
RoHS					Yes	
<b>INSTALLATION SPECIFICATIONS</b>						
Compatible SolarEdge Inverters	Three phase inverters				SE30K & larger	
Maximum Allowed System Voltage					1000	Vdc
Dimensions (W x L x H)	129 x 168 x 59 / 5.1 x 6.61 x 2.32				129 x 162 x 59 / 5.1 x 6.4 x 2.32	mm / in
Weight					1064 / 2.34	gr / lb
Input Connector					MC4 <sup>(3)</sup>	
Input Wire Length Options	Input #1	Input #2	Input #1	Input #2	-	
1	(-) 0.16 / 0.52, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 0.16 / 0.52				
2	(-) 1.6 / 5.2, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 1.6 / 5.2	(-) 1.6 / 5.2, (+) 1.6 / 5.2	(-) 1.6 / 5.2, (+) 1.6 / 5.2	1.6 / 5.2	m / ft
3	(-) 1.6 / 5.2, (+) 1.6 / 5.2	(-) 1.6 / 5.2, (+) 1.6 / 5.2				
Output Wire Type / Connector					Double insulated; MC4	
Output Wire Length	2.3 / 7.5		2.3 / 7.5		2.4 / 7.8	m / ft
Operating Temperature Range <sup>(4)</sup>					-40 to +85 / -40 to +185	°C / °F
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) In the event of an odd number of PV modules in one string, installation of one P860 /P960 Power Optimizer connected to one PV module is allowed. When connecting a single module to the P860/ P960, seal the unused input connectors with the supplied pair of seals

(3) For other connector types please refer to: <https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf>

(4) For ambient temperature above +70°C / +158°F, power de-rating is applied. Refer to the Power Optimizers Temperature De-Rating Application Note for more details

PV System Design Using a SolarEdge Inverter <sup>(5)(6)</sup>		208V Grid SE14.4K*	208V Grid SE17.3K*	277/480V Grid SE20K, 30K	277/480V Grid SE33.3K*, SE40K*	
Compatible Power Optimizers		P860, P960, P1101	P860, P960, P1101	P860, P960, P1101	P860, P960, P1101	
Minimum String Length	Power Optimizers	8	9	14	14	
	PV Modules	15	17	27	27	
Maximum String Length	Power Optimizers	30	30	30	30	
	PV Modules	60	60	60	60	
Maximum Continuous Power per String		7200	8730	15300	15300	W
Maximum Allowed Connected Power per String <sup>(7)</sup> (Permitted only when the difference in connected power between strings is up to 2,000W for the 277/480V grid, or 1,000W for the 208V grid)		1 string - 8400 2 strings or more - 9000	1 string - 9930 2 strings or more - 10530	1 string - 17550 2 strings or more - 20300	2 strings or less - 17550 3 strings or more - 20300	W
Parallel Strings of Different Lengths or Orientations						Yes