Power Optimizer

P860 / P960

POWEROPTIMIZER

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
- High efficiency with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
- 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
- Use with two PV modules connected in series or in parallel
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

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/ Power Optimizer

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Power Optimizer Model (Typical Module Compatibility)	P860 (for 2 x 72 cell modules)	P960 (for 2 x 72 cell modules)	Unit
INPUT			
Rated Input DC Power[1]	860	960	W
Connection type	Dual input for independently connected modules[2]		
Absolute Maximum Input Voltage (Voc at lowest temperature)	60		Vdc
MPPT Operating Range	12.5 - 60		Vdc
Maximum Short Circuit Current (Isc)	22	23	Adc
Maximum Short Circuit Current per input (Isc)	11	11.5	Adc
Maximum Efficiency	99.5		%
Weighted Efficiency	98.6		%
Overvoltage Category	II		
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING INVERTER)			
Maximum Output Current	18		Adc
Maximum Output Voltage	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1 ±0.1		Vdc
STANDARD COMPLIANCE			
Photovoltaic Rapid Shutdown System	Compliant with NEC 2014, 2017[3], 2020		
EMC	FCC Part15 Class A, IEC61000-6-2, IEC61000-6-3		
Safety	IEC62109-1 (class II safety), UL1741		
Material	UL-94 V-0, UV Resistant		
RoHS	Yes		
INSTALLATION SPECIFICATIONS			
Compatible SolarEdge Inverters	Three phase inverters		
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		mm / in
Weight (including cables)	1064 / 2.34		gr / lb
Input Connector	MC4[4]		
Output Wire Length[5]	Lengths options	Input #1	Input #2	m / ft
	(1)	(-) 0.16 / 0.52, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 0.16 / 0.52	
	(2)	(-) 1.6 / 5.24, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 1.6 / 5.24	
Output Wire Type / Connector	Double Insulated; MC4		
Output Wire Length	2.3 / 7.2		
Operating Temperature Range[6]	-40 to +85 / -40 to +185		˚C / ºF
Protection Rating	IP68 / NEMA6P		
Relative Humidity	0 - 100		%

(1) Rated power of the module at STC will not exceed the optimizer Rated Input DC Power Modules with up to +5% power tolerance are allowed.
(2) In a case of odd number of PV modules in one string, it is allowed to install one P860/P960 power optimizer connected to one PV module. When connecting a single module to P860/P960, seal the unused input connectors with the supplied pair of seals.
(3) NEC 2017 requires max combined input voltage be not more than 80V.
(4) For other connector types please refer to: https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf
(5) Longer inputs wire length are available for use with split junction boc modules. For options 2, order P860-xxxYxxx.
(6) For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Application Note for more details.

PV SYSTEM DESIGN USING SOLAREDGE INVERTER[7]		THREE PHASE FOR 230/400V GRID	THREE PHASE FOR 277/480V GRID	
		P860/P960		
Minimum String Length	Power Optimizers	14		
	PV Modules	27		
Maximum String Length	Power Optimizers	30		
	PV Modules	60		
Maximum Power per String		13500[8]	15300[9]	W
Parallel Strings of Different Lengths or Orientations		Yes		

(7) It is not allowed to mix P860/P960 with P730/P800p/P850/P950/P1100 in one string or to mix with P370-P505 in one string.
(8) For the 230/400V grid: up to 15,750W per string may be installed when the maximum power difference between each string is 2,000W.
(9) For the 277/480V grid: up to 15,750W per string may be installed when the maximum power difference between each string is 2,000W.

CE RoHS