Power Optimizer
For North America

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
- 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)
- Use with two PV modules connected in parallel

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Power Optimizer Model (Typical Module Compatibility)	P860 (for 2 x 72 cell modules)	P960 (for 2 x 72 cell modules)	
INPUT			
Rated Input DC Power[1]	860	960	W
Connection Method	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 SOLAREDGE INVERTER)			
Maximum Output Current	18		Adc
Maximum Output Voltage	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE 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 Part 15 Class A, IEC61000-6-2, IEC61000-6-3		
Safety	IEC62109-1 (class II safety), UL1741		
Material	UL94 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	1064 / 2.34		gr / lb
Input Connector	MC4[4]		
Input Wire Length	Wire length options	Input #1	Input #2
	(1)	(-) 0.16 / 0.52, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 0.16 / 0.52
	(2)	(-) 1.6 / 5.24, (+) 0.16 / 0.52	(-) 0.16 / 0.52, (+) 1.6 / 5.24
			m / ft
Output Wire Type / Connector	Double insulated; MC4		
Output Wire Length	2.3 / 7.5		m / ft
Operating Temperature Range[5]	-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) NEC 2017 requires that the maximum combined input voltage does not exceed 80V
(4) For other connector types please refer to: https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf
(5) 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[6]		Three Phase for 208V Grid[7]		Three Phase for 277/480V Grid		
		P860	P960	P860	P960	
Minimum String Length	Power Optimizers	8		14		
	PV Modules	15		27		
Maximum String Length	Power Optimizers	30				
	PV Modules	60				
Maximum Power per String		7200[8]		15300[9]		W
Parallel Strings of Different Lengths or Orientations		Yes				

(6) It is not allowed to mix P860/P960 with P801/P800p/P850/P950/P1100 in one string or to mix with P370-P505 in one string
(7) P860 design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification
(8) For the 208V grid: It is allowed to install up to 7700W per string when the maximum power difference between each string is 1,000W
(9) For the 277/480V grid: it is allowed to install up to 17,550W per string when the maximum power difference between each string is 2,000W

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RoHS

Intertek