
Power Optimizer For North America

P730 / P850 / P800p



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 series or in parallel

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P730 / P850 / P800p

Optimizer Model (Typical Module Compatibility)	P730 (for 2 x high power 72-cell PV modules)	P850* (for 2x high power or bi-facial modules)	P800p (for 2x 96-cell 5" PV modules)	
INPUT				
Rated Input DC Power ⁽¹⁾	730	850	800	W
Connection Method	Single input for series connected modules		Dual input for independently connected modules ⁽²⁾	
Absolute Maximum Input Voltage (Voc at lowest temperature)	125		83	Vdc
MPPT Operating Range	12.5 - 105		12.5 - 83	Vdc
Maximum Short Circuit Current per input (Isc)	11	12.5	7	Adc
Maximum DC Input Current per input	13.75	15.63	8.75	Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)				
Maximum Output Current	15	18		Adc
Maximum Output Voltage	85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)				
Safety Output Voltage per Power Optimizer	1 ± 0.1			Vdc
STANDARD COMPLIANCE				
Photovoltaic Rapid Shutdown System	NEC 2014		NEC 2014 & 2017 ⁽³⁾	
EMC	FCC Part15 Class B, 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			
Dimensions (W x L x H)	129 x 153 x 49.5 / 5.1 x 6 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	129 x 168 x 59 / 5.1 x 6.6 x 2.3	mm / in
Weight	933 / 2.05	1064 / 2.34		gr / lb
Input Connector	MC4 ⁽⁴⁾			
Input Wire Length	0.16 / 0.52	0.16 / 0.52 , 1.3 / 4.26 ⁽⁵⁾ , 1.6 / 5.24 ⁽⁵⁾	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4			
Output Wire Length	2.1 / 6.9 ⁽⁶⁾			
Operating Temperature Range ⁽⁷⁾	-40 - +85 / -40 - +185			
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 P730/P850/P800p power optimizer connected to one PV module. When connecting a single module to the P800p 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 box modules. (For 1.3m/4.26ft order P850-xxxXxxY. For 1.6m/5.24ft order P850-xxxYxxY).

⁽⁶⁾ When using the P850 with longer input option (1.3m/4.26ft or 1.6m/5.24ft), the output wire length is 2.2m / 7.2ft

⁽⁷⁾ 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 ⁽⁸⁾		Three Phase for 208V Grid		Three Phase for 277/480V Grid		
Compatible Power Optimizers		P730 ⁽⁹⁾	P850/P800p ⁽⁹⁾	P730	P850/P800p	
Minimum String Length	Power Optimizers	8		14		
	PV Modules	16		27		
Maximum String Length	Power Optimizers	30		30		
	PV Modules	60		60		
Maximum Power per String		6000 ⁽¹⁰⁾	7200	12750 ⁽¹¹⁾	15300 ⁽¹¹⁾	W
Parallel Strings of Different Lengths or Orientations		Yes				

⁽⁸⁾ P800p and P850 can be mixed in the same string. It is not allowed to mix P730 with P850/P800p in one string or to mix P730/P850/P800p with P320/P340/P370/P400/P405/P505 in one string.

⁽⁹⁾ P730/P850/P800p design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification.

⁽¹⁰⁾ For 208V grid: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for three phase inverter with synergy technology) and when the maximum power difference between the strings is up to 1,000W.

⁽¹¹⁾ For the 277/480V grid: When three strings are connected to the inverter (when using three phase inverters with synergy technology – three strings per unit), with a maximum power difference of 2,000W between each string, then up to 15,000W per string may be installed with P730 and up to 17,550W per string may be installed with P850/P800p.

* P850 replaced the P800s; they can be used interchangeably and can be connected in the same string.