Power Optimizer
For North America

P730 / P801 / P850 / P950 / P800p

25 YEAR WARRANTY

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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Optimizer Model (Typical Module Compatibility)	P730 (for 2 x 72-cell PV modules)	P801 (for 2 x 72-cell PV modules)	P850 (for 2x high power or bi-facial modules)	P950 (for 2x high power or bi-facial modules)	P800p (for 2x 96-cell 5 PV modules)	
INPUT						
Rated Input DC Power[1]	730	800	850	950	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	11.75	12.5		7	Adc
Maximum DC Input Current per input	13.75	14.65	15.6		8.75	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	15		18	17	18	Adc
Maximum Output Voltage	85					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	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					Vdc
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 / 4.27	0.16 / 0.52, 1.6 / 5.24[5]	1.3 / 4.26	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	2.1 / 6.9[6]	2.2 / 7.22	2.1 / 6.9[6]	2.2 / 7.2	2.1 / 6.9[6]	m / ft
Operating Temperature Range[7]	-40 - +85 / -40 - +185					°C / °F
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/P801/P850/P800p/P950 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 1.6m/5.24ft order P850-xxxYxxY. For 1.3m/4.27ft order P801-xxxxXxxX).
(6) When using the P850 with longer input option (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/P801[9]	P850/P800p[9]	P730/P801	P850/P800p	P950	
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[10]	12750[11]	15300[11]	14450[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/P801 with P850/P800p in one string. It is not allowed to mix P950 with any other power optimizer or to mix P730-P950 with P320-P505 in one string.
(9) P730/P801/P850/P800p design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification.
(10) For 208V grid: with P730/P801 it is allowed to install up to 7,200W per string and with P850/P800p it is allowed to install up to 8,400W per string when the maximum power difference between each string is 1,000W.
(11) For the 277/480V grid: with P730/P801 up to 15,000W per string may be installed and with P850/P800p up to 17,550W and with P950 up to 17,950W per string may be installed when the maximum power difference between each string is 2,000W.

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