

Power Optimizer

P650 / P730 / P801 / P850 / P800p / P950 /



POWER OPTIMIZER



solar**edge**

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
- Use with two PV modules connected in series or in parallel
- Balance of System cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string lengths possible
- Module-level voltage shutdown for installer and firefighter safety
- Advanced maintenance with module-level monitoring
- Up to 25% more energy
- Fast installation with a single bolt
- Superior efficiency (99.5%)

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Power optimizer model (compatible with common modules)	P650 (for 2 x 60-cell PV modules)	P730 (for 2 x 72-cell PV modules)	P801 (for 2x72-cell PV modules)	P850 (for 2 x high power or bi-facial modules)	P800p (for 2x96-cell 5" PV modules)	P950 (for 2 X high power or bi-facial modules)	
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INPUT

Nominal DC input power ⁽¹⁾	650	730	801	850	800p	950	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	96	125			83	125	Vdc
Connection Method	Single input for series connected modules				Dual input for independently connected ⁽⁷⁾	Single input for series connected modules	
MPPT operating area	12.5-80	12.5-105			12.5-83	12.5-105	Vdc
Max. short-circuit current (ISC)	11		11.75	12.5	7	12.5	Adc
Maximum efficiency	99.5						%
Weighted efficiency	98.8						%
Overvoltage category	II						

OUTPUT IN OPERATION (POWER OPTIMIZER CONNECTED WITH SOLAREEDGE INVERTER IN OPERATION)

Maximum output current	15	18	17	Adc
Maximum output voltage	85			Vdc

OUTPUT IN STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER)

Safety output voltage/optimizer	1 ± 0,1						
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STANDARD COMPLIANCE

EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3						
Safety	IEC62109-1 (class II safety)						
Fire Safety	VDE-AR-E 2100-712: 2013-05						
RoHS	Yes						

INSTALLATION SPECIFICATIONS

Compatible SolarEdge Inverters	3-phase inverters SE15K & larger		Three phase inverters SE16K & larger			
Maximum system voltage	1,000					Vdc
Dimensions (wxlxh)	129x153x42,5	129x89x49,5	129x162x59	129x168x59	129x162x59	mm
Weight (including cable)	834	933	1064			gr
Connector on the module side	MC4 ⁽²⁾					
Output Wire Length	22					m
Output connector	MC4					
Input Wire Length	0.15	0.16, 0.9 ⁽³⁾	0.16, 0.9, 13. 1.6 ⁽³⁾		0.16	m
Operating temperature range	-40 - +85					°C
Protection class	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) For other connector types please contact SolarEdge.

(3) Longer inputs wire length are available for use with split junction box modules (For 0.9m order P730-xxx/xxx or P801/P850-xxx/xxx. For 1.3m order P850-xxx/xxx or P950-xxx/xxx.

For 1.6m order P850-xxx/xxx or P950-xxx/xxx).

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

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PV System Design Using a Solaredge Inverter ⁽⁵⁾⁽⁶⁾⁽⁷⁾		Three Phase SE15K and larger						Three Phase for 277/480V grid						
Compatible Power Optimizers		P650	P730	P801	P850	P800p	P950	P650	P730	P801	P850	P800p	P950	
Minimum string length	Power Optimizers	14												
	PV Modules ⁽⁷⁾	27												
Maximum string length	Power Optimizers	30												
	PV Modules ⁽⁷⁾	60												
Maximum power per string		11250 ⁽⁸⁾			13500 ⁽⁸⁾		11250 ⁽⁸⁾	12750 ⁽⁸⁾			15300 ⁽⁸⁾		14450 ⁽⁸⁾	W
Parallel strings of different lengths or orientations		Yes												

(5) P650/P730/P801 can be mixed in one string. It is not allowed to mix P650/P730/P801 with P850/P800p. It is not allowed to mix P950 with any other power optimiser or to mix P650-P950 with P300-P505 in one string.

(6) For SE15K and above, the minimum DC power should be 11KW.

(7) In a case of odd number of PV modules in one string it is allowed to install one P650/P730/P850/P800p/P801/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.

(8) For the 230/400V grid: with P650/P730/P801 up to 13,500W per string may be installed, with P850/P800p up to 15,750W and with P950 up to 16,250W per string may be installed when the maximum power difference between each string is 2,000W

(9) For the 277/480V grid: with P650/P730/P801 up to 15,000W per string may be installed, 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