

Power Optimizer

Frame-Mounted Module Add-On

P650 / P730 / P801



POWER OPTIMIZER

Fast mount power optimizers with module-level optimization

- Specifically designed to work with SolarEdge inverters
- Quicker installation - Power optimizers can be mounted in advance saving installation time
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of modules mismatch-loss, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Next generation maintenance with module level monitoring
- Module-level voltage shutdown for installer and firefighter safety

/ Power Optimizer

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Optimizer Model (Typical Module Compatibility)	P650 (for 1 x high power PV module)	P730 (for up to 2 x 72-cell PV modules)	P801 (for up to 2 x 72/144-cell PV modules)
INPUT			
Rated Input DC Power ⁽¹⁾	650	730	800
Absolute Maximum Input Voltage (Voc at lowest temperature)	96	125	
MPPT Operating Range	12.5 - 80	12.5 - 105	
Maximum Short Circuit Current (Isc)	11	11.75	
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		
Maximum Output Voltage	80		
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1 ± 0.1		
STANDARD COMPLIANCE			
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3		
Safety	IEC62109-1 (class II safety)		
RoHS	Yes		
Fire Safety	VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Compatible SolarEdge Inverters	Three phase inverters SE16K & larger		
Maximum Allowed System Voltage	1000		
Dimensions (W x L x H)	129 x 153 x 42.5 / 5.1 x 6 x 1.7	139 x 165 x 62 / 5.5 x 6.5 x 2.4	129 x 153 x 49.5 / 5.1 x 6 x 1.9
Weight (including cables)	834 / 1.8	1185 / 2.6	933 / 2.1
Input Connector	MC4 ⁽²⁾		
Input Wire Length	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95	
Output Connector	Double Insulated / MC4		
Output Wire Length	Portrait Orientation: 1.2 / 3.9	-	Portrait Orientation: 1.2 / 3.9
	Landscape: 2.7 / 2.2		
Operating Temperature Range ⁽³⁾	-40 to +85 / -40 to +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) For other connector types please contact SolarEdge

(3) 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 SOLAREEDGE INVERTER ⁽⁴⁾⁽⁵⁾⁽⁶⁾		230/400V Grid SE16K, SE17K, SE25K*, SE33.3K*	230/400V Grid SE27.6K*	230/400V Grid SE30K*	277/480V Grid SE33.3K*, SE40K*
Compatible Power Optimizers		P650, P730, P801			
Minimum String Length	Power Optimizers	14	14	15	14
	PV Modules	27	27	29	27
Maximum String Length	Power Optimizers	30	30	30	30
	PV Modules	60	60	60	60
Maximum Continuous Power per String		11250	11625	12750	12750
Maximum Allowed Connected Power per String ⁽⁷⁾ (Permitted only when the difference in connected power between strings is 2,000W or less)		13500	13500	15000	15000
Parallel Strings of Different Lengths or Orientations		Yes			

* The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter

(4) P650/P730/P801 can be mixed in one string only with P650/P730/P801

(5) For each string, a Power Optimizer may be connected to a single PV module if 1) each Power Optimizer is connected to a single PV module or 2) it is the only Power Optimizer connected to a single PV module in the string

(6) For SE16K and above, the minimum STC DC connected power should be 11KW

(7) To connect more STC power per string, design your project using [SolarEdge Designer](#)

