Power Optimizer

For North America

P801 / P850 / P950 / P1100

POWER OPTIMIZER

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
- Use with parallel PV modules connected in series

solaredge

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Power Optimizer Model (Typical Module Compatibility)	P801 (for up to 2 x 72-cell PV modules)	P850 (for up to 2 x high power or bi-facial modules)	P950 (for up to 2 x high power or bi-facial modules)	P1100 (for up to 2 x high power or bi-facial modules)	
INPUT					
Rated Input DC Power(1)	800	850	950	1100	W
Connection Method	Single input for series connected modules				
Absolute Maximum Input Voltage (Voc at lowest temperature)	125				Vdc
MPPT Operating Range	12.5 - 105				Vdc
Maximum Short Circuit Current per input (Isc)	11.75	14.1*		14.1	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			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	NEC 2014				
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	SE9K & larger		SE20K & larger	SE30K & larger	
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			mm / in
Weight	933 / 2.05	1064 / 2.34			gr / lb
Input Connector	MC4(2)				
Input Wire Length	0.16 / 0.52 / 1.3 / 4.27	0.16 / 0.52 / 1.6 / 5.24	1.3 / 4.27	1.6 / 5.24	m / ft
Output Wire Length	2.2 / 7.2	2.1 / 6.9 / 2.2 / 7.2	2.2 / 7.2	2.4 / 7.8	m / ft
Output Wire Type / Connector	Double Insulated / MC4				
Operating Temperature Range(3)	-40 to +85 / -40 to +185				°C / °F
Protection Rating	IP68 / NEMA6P				
Relative Humidity	0 - 100				%

* For P850/P950 models manufactured in work week 06/2020 or earlier, the maximum Isc per input is 12.5A. The manufacture code is indicated in the Power Optimizer's serial number example: S/N SJ0620A-xxxxxxxx (work week 06 in 2020)

(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) For other connector types please refer to: https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf

(3) For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf for more

PV System Design Using a SolarEdge Inverter(4)(5)(6)		208V Grid SE14.4K*		208V Grid SE17.3K*		277/480V Grid SE20K, SE30K, SE33.3K*, SE40K*	277/480V Grid SE20K, SE30K	277/480V Grid SE33.3K*, SE40K*	
Compatible Power Optimizers		P801	P850, P950, P1100	P801	P850, P950, P1100	P801	P850, P950, P1100	P850, P950, P1100	
Minimum String Length	Power Optimizers	8	8	9	9	14	14	14	
	PV Modules	15	15	17	17	27	27	27	
Maximum String Length	Power Optimizers	30	30	30	30	30	30	30	
	PV Modules	60	60	60	60	60	60	60	
Maximum Continuous Power per String		6000	7200	7275	8730	12750	15300	15300	W
Maximum Allowed Connected Power per String(7) (Permitted only when the difference in connected power between strings is up to 2,000W for the 277/480V grid, or 1,000W for the 208V grid)		2 strings or less - 7200	1 string - 8400	2 strings or less - 8475	1 string - 9930	15000	1 string 17550	2 strings or less - 17550	W
		3 strings or more - 7800	2 strings or more - 9000	3 strings or more - 9075	2 strings or more - 10530		2 strings or more - 20300	3 strings or more - 20300	
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) P850/P950/P1100 can be mixed in one string only with P850/P950/P1100. P801 cannot be mixed with any other Power Optimizer in the same string

(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) Design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification

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

RoHS

Intertek