Power Optimizer

For Europe

P650 / P701 / P730 / P800p / 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 up to two PV modules connected in series or in parallel

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For Europe

P650 / P701 / P730

Power Optimizer Model (Typical Module Compatibility)	P650 (for up to 2 x 60-cell PV modules)	P701 (for up to 2 x 60/120-cell PV modules)	P730 (for up to 2 x 72-cell PV modules)	
INPUT				
Rated Input DC Power(1)	650	700*	730**	W
Connection Method	Single input for series connected modules			
Absolute Maximum Input Voltage (Voc at lowest temperature)	96		125	Vdc
MPPT Operating Range	12.5 - 80		12.5 - 105	Vdc
Maximum Short Circuit Current per Input (Isc)	11	11.75	11**	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			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				
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011 - Class A			
Safety	IEC62109-1 (class II safety)			
RoHS	Yes			
Fire Safety	VDE-AR-E2100-712:2013-05			
INSTALLATION SPECIFICATIONS				
Compatible SolarEdge Inverters	Three phase inverters SE16K & larger(2)			
Maximum Allowed System Voltage	1000			Vdc
Dimensions (W x L x H)	129 x 153 x 42.5 / 5.1 x 6 x 1.7		129 x 153 x 49.5 / 5.1 x 6 x 1.9	mm / in
Weight	834 / 1.8		933 / 2.1	gr / lb
Input Connector	MC4(3)			
Input Wire Length	0.16 / 0.52		0.16 / 0.52 , 0.9 / 2.95(4)	m / ft
Output Connector	MC4			
Output Wire Length	Portrait Orientation: 1.2/3.9			m / ft
	Landscape Orientation: 1.8 / 5.9		Landscape Orientation: 2.2 / 7.2	
Operating Temperature Range(5)	-40 to +85 / -40 to +185			°C / °F
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 - 100			%

* For P701 with manufactured date greater than working week 06 of 2020 the rated DC input is 730W

** For P730 with manufactured date greater than working week 06 of 2020 the rated DC input is 760W and maximum Isc per Input is 11.75A
The manufacture code is indicated in the power optimizer's serial number. Example: S/N SJ0620A-xxxxxxxx (working 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 compliance with EN 55011 class A (where required), installation shall be done with inverter 20kVA or larger, and comply with the requirements in the EMC section of the installation manual

(3) For other connector types please contact SolarEdge

(4) Longer inputs wire lengths are available for use with split junction box modules. (For 0.9m/2.95ft order P730-xxxLxxx)
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

/ Power Optimizer

For Europe

P800p / P801 / P850 / P950 / P1100

Power Optimizer Model (Typical Module Compatibility)	P800p (for up to 2 x 96-cell 5" PVmodules)	P801 (for up to 2 x 72/144-cell PVmodules)	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	800	850	950	1100	W
Connection Method	Dual input for independently connected[7]	Single input for series connected modules				
Absolute Maximum Input Voltage (Voc at lowest temperature)	83	125				Vdc
MPPT Operating Range	12.5 - 83	12.5 - 105				Vdc
Maximum Short Circuit Current per Input (Isc)	7	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	18	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						
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011 - Class A					
Safety	IEC62109-1 (class II safety)					
RoHS	Yes					
Fire Safety	VDE-AR-E2100-712:2013-05					
INSTALLATION SPECIFICATIONS						
Compatible SolarEdge Inverters	Three phase inverters SE16K & larger[2]				Three phase SE25K & larger	
Maximum Allowed System Voltage	1000					Vdc
Dimensions (W x L x H)	129 x 168 x 59 / 5.1 x 6.61 x 2.32	129 x 153 x 49.5 / 5.1 x 6 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.32			mm /in
Weight	1064 / 2.3	933 / 2.1	1064 / 2.3			gr/lb
Input Connector	MC4[3]					
Input Wire Length	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95	0.16 / 0.52, 0.9 / 2.95, 1.3 / 4.26, 1.6 / 5.24[4]	0.16 / 0.52, 1.3 / 4.26, 1.6 / 5.24[3]	0.16 / 0.52, 1.3 / 4.26[3]	m / ft
Output Connector	MC4					
Output Wire Length	Portrait Orientation: 1.2 / 3.9				2.4 / 7.8	m / ft
	Landscape Orientation: 1.8 / 5.9	Landscape Orientation: 2.2 / 7.2				
Operating Temperature Range[5]	-40 to +85 / -40 to +185					°C/°F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

* For P850/P950 with manufactured date smaller or equal to working week 06 of 2020 the Maximum Short Circuit Current per Input is 12.5A
The manufacture code is indicated in the power optimizer's serial number. Example: S/N SJ0620A-xxxxxxxx (working 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 compliance with EN 55011 class A (where required), installation shall be done with inverter 20kVA or larger, and comply with the requirements in the EMC section of the installation manual

(3) For other connector types please contact SolarEdge

(4) Longer inputs wire length are available for use with split junction box modules. (For 0.9m/2.95ft order P801/P850-xxxLxxx. For 1.3m/2.95ft order P850/P950/P1100 -xxxXxxx. For 1.6m/5.24ft order P850/P950-xxxYxxx)

(5) 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[6][7][8][9]		230/400V Grid SE25K and larger							277/480V Grid SE33.3K and larger							
Compatible Power Optimizers		P650	P701	P730	P801	P800p / P850	P950	P1100	P650	P701	P730	P801	P800p / P850	P950	P1100	
Minimum String Length	Power Optimizers	14														
	PV Modules	27														
Maximum String Length	Power Optimizers	30														
	PV Modules	60														
Maximum Nominal Power per String		11250[10]				13500[10]			12750[11]				15300[11]			W
Parallel Strings of Different Lengths or Orientations		Yes														

(6) P650/P701/P730/P801 can be mixed in one string, and P850/P800p/P950/P1100 can also be mixed in one string. It is not allowed to mix P650/P701/P730/P801 with P850/P800p/P950/P1100, nor is it allowed to mix P650-P1100 with P370-P505 in one string

(7) In a case of odd number of PV modules in one string it is allowed to install one P650/P701/P730/P850/P800p/P801/P950/P1100 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) Power optimizers intended for use with two PV modules each (2:1 connection), can be used with a single PV module (1:1 connection), as long as the entire string uses 1:1 connections

(9) For SE25K and above, the minimum DC power should be 11KW

(10) For the 230/400V grid: With P650/P701/P730/P801 up to 13,500W per string may be installed, with P850/P800p up to 15,750W and with P950/P1100 up to 18,500W per string may be installed when the maximum power difference between each string is 2,000W. For P950/P1100, minimum two string are required for SE25K-SE27.6K inverters, and for SE30K and above minimum three string are required

(11) For the 277/480V grid: With P650/P701/P730/P801 up to 15,000W per string may be installed, with P850/P800p up to 17,550W and with P950/P1100 up to 20,300W per string may be installed when the maximum power difference between each string is 2,000W. For P950/P1100, minimum three string are required for SE33.3K and SE40K inverters

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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