Power Optimizer

P605* / P650 / P701 / P730 / P800p / P801 / P850 / P950 / P1100

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

- Use with up to two PV modules connected in series or in parallel

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/ Power Optimizer

P605* / P650 / P701 / P730

Power Optimizer Model (Typical Module Compatibility)	P605* (for 1 x high power PV module)	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]	605	650	700	730	W
Connection Method	Single input for series connected modules				
Absolute Maximum Input Voltage (Voc at lowest temperature)	65	96		125	Vdc
MPPT Operating Range	12.5 - 65	12.5 - 80		12.5 - 105	Vdc
Maximum Short Circuit Current per Input (Isc)	14	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 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	Three phase inverters SE15K & larger	Three phase inverters SE16K & larger		
Maximum Allowed System Voltage	1000				Vdc
Dimensions (W x L x H)	129 x 153 x 52 / 5.1 x 6 x 2	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	1064 / 2.3	834 / 1.8		933 / 2.1	gr / lb
Input Connector	MC4[2]				
Input Wire Length	0.16 / 0.52			0.16 / 0.52 , 0.9 / 2.95[3]	m / ft
Output Connector	MC4				
Output Wire Length	Portrait Orientation: 1.4 / 4.5	Portrait Orientation: 1.2 / 3.9	-		m / ft
	-	Landscape Orientation: 1.8 / 5.9		Landscape Orientation: 2.2 / 7.2	
Operating Temperature Range[4]	-40 to +85 / -40 to +185				°C / °F
Protection Rating	IP68 / NEMA6P				
Relative Humidity	0 - 100				%

* P605 is not currently available in Europe

(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 contact SolarEdge

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

(4) 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

P800p / P801 / P850 / P950 / P1100

Power Optimizer Model (Typical Module Compatibility)	P800p (for up to 2 x 96-cell 5" PV modules)	P801 (for up to 2 x 72/144-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	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	12.5		14	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 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				Three phase inverters 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[2]					
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[3]	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[4]	-40 to +85 / -40 to +185					°C / °F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

(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 contact SolarEdge
(3) 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)
(4) 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[5][6][7][8]		Three Phase SE15K and larger	Three Phase SE16K and larger								Three Phase for 277/480V grid								
Compatible Power Optimizers		P650	P605*	P650	P701	P730	P801	P800p/ P850	P950	P1100	P605*	P650	P701	P730	P801	P800p/ P850	P950	P1100	
Minimum String Length	Power Optimizers	14																	
	PV Modules	27	14	27							14	27							
Maximum String Length	Power Optimizers	30																	
	PV Modules	60	30	60							30	60							
Maximum Nominal Power per String		11250[9]			13500[9]						12750[10]				15300[10]				W
Parallel Strings of Different Lengths or Orientations		Yes																	

(5) 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. P605 cannot be mixed with any other power optimizer in the same string
(6) 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
(7) 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
(8) For SE15k and above, the minimum DC power should be 11KW
(9) For the 230/400V grid: With P605/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 SE16K-SE27.6K inverters, and for SE30K and above minimum three string are required
(10) For the 277/480V grid: With P605/650/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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