
Power Optimiser

For Australia

P605 / P730 / P801 / P850 / P800P / P950 / P1100



POWER OPTIMISER

PV power optimisation at the module-level

The most cost-effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- High efficiency, with module-level MPPT for maximised system energy production and revenue, and fast project ROI
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% fewer 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 two PV modules connected in series or in parallel

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P605 / P730 / P801

Optimiser Model (Typical Module Compatibility)	P605 (for 1 x high power PV module)	P730 (for up to 2 x 72-cell PV modules)	P801 (for up to 2 x 72-cell PV modules)	Units
INPUT				
Rated Input DC Power ⁽¹⁾	605	730	800	W
Connection Method	Single input for series connected modules			
Absolute Maximum Input Voltage (Voc at lowest temperature)	65	125		Vdc
MPPT Operating Range	12.5 – 65	12.5 – 105		Vdc
Maximum Short Circuit Current per Input (Isc)	14.1	11	11.75	Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
Overcurrent Protection	14.75	11.75	12.75	Adc
OUTPUT DURING OPERATION (POWER OPTIMISER CONNECTED TO OPERATING SOLAREEDGE INVERTER)				
Maximum Output Current	15			Adc
Maximum Output Voltage	80			Vdc
OUTPUT DURING STANDBY (POWER OPTIMISER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)				
Safety Output Voltage per Power Optimiser	1 ± 0.1			Vdc
STANDARD COMPLIANCE				
EMC	FCC Part15 Class A, 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 SE15K & larger			
Maximum Allowed System Voltage	1000			Vdc
Dimensions (W x L x H)	129 x 153 x 52	129 x 153 x 49.5		mm
Weight (including cables)	1064	933		gr
Input Connector	MC4 ⁽²⁾			
Output Connector	MC4			
Output Wire Length	1.4	2.2		m
Input Wire Length	0.16	0.16, 0.9 ⁽³⁾		m
Operating Temperature Range ⁽⁴⁾	-40 to +85			°C
Maximum Operating Altitude	2000			m
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 – 100			%

(1) The rated power of the module at STC will not exceed the optimiser's "Rated Input DC Power". Modules with up to +5% power tolerance are allowed.

(2) For other connector types please contact SolarEdge.

(3) Longer input wire lengths are available for use with split junction box modules.

(For 0.9m/0.52ft order P730/P801/ P850-xxxLxxx. For 1.6m/5.24ft order P850/P950-xxxYxxx).

(4) For ambient temperatures above +70°C power derating is applied. Refer to the [Temperature Derating](#) technical note for more details.

PV System Design Using a SolarEdge Inverter ⁽⁵⁾⁽⁶⁾⁽⁷⁾	230/400V Grid SE17K, SE25K*, SE30K, SE33.3K*		230/400V Grid SE15K, SE27.6K*		
	P605	P730, P801	P605	P730, P801	
Compatible Power Optimisers	P605	P730, P801	P605	P730, P801	
Minimum String Length	Power Optimisers	14	14	14	
	PV Modules	14	27	14	27
Maximum String Length	Power Optimisers	30	30	30	30
	PV Modules	30	60	30	60
Maximum Continuous Power per String	11250		11625		W
Maximum Allowed Connected Power per String ⁽⁸⁾	13500		13875		W
Parallel Strings of Different Lengths or Orientations	Yes				
Maximum Difference in Number of Power Optimisers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit	Five Power Optimisers				

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

(5) P730/P801 can be mixed in one string only with P730/P801. P605 cannot be mixed with any other Power Optimiser in the same string.

(6) For each string, a Power Optimiser may be connected to a single PV module if:

1) each Power Optimiser is connected to a single PV module or

2) it is the only Power Optimiser connected to a single PV module in the string.

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

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

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P800P / P850 / P950 / P1100

Optimiser Model (Typical Module Compatibility)	P800p (for up to 2 x 96-cell 5" 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)	Units
INPUT					
Rated Input DC Power ⁽¹⁾	800	850*	950*	1100	W
Connection Method	Dual input for independently connected	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	14.1			Adc
Maximum Efficiency	99.5				%
Weighted Efficiency	98.6				%
Overvoltage Category	II				
Overcurrent Protection	15.25	14.75			Adc
OUTPUT DURING OPERATION (POWER OPTIMISER CONNECTED TO OPERATING SOLAREDGE INVERTER)					
Maximum Output Current	18				Adc
Maximum Output Voltage	80				Vdc
OUTPUT DURING STANDBY (POWER OPTIMISER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)					
Safety Output Voltage per Power Optimiser	1 ± 0.1				Vdc
STANDARD COMPLIANCE					
EMC	FCC Part15 Class A, 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 SE15K & larger				
Maximum Allowed System Voltage	1000				Vdc
Dimensions (W x L x H)	129 x 168 x 59	129 x 162 x 59	129 x 162 x 59	129 x 168 x 59	mm
Weight (including cables)	1064				g
Input Connector	MC4 ⁽²⁾				
Output Connector	MC4				
Output Wire Length	2.2		2.4		m
Input Wire Length	0.16	0.16, 0.9, 1.3, 1.6 ⁽³⁾	0.16, 1.3, 1.6 ⁽³⁾	0.16, 1.3 ⁽³⁾	m
Operating Temperature Range ⁽⁴⁾	-40 to +85				°C
Maximum Operating Altitude	2000				m
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-xxxxxxx (work week 06 in 2020)

(1) The rated power of the module at STC will not exceed the optimiser's "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/0.52ft order P730/P801/P850-xxxLxxx. For 1.3m/4.26ft order P850/P950/P1100 -xxxYxxx. For 1.6m/5.24ft order P850/P950-xxxYxxx.

(4) For ambient temperatures above +70°C power derating is applied. Refer to the [Temperature Derating](#) technical note for more details.

PV System Design Using a SolarEdge Inverter ⁽⁵⁾⁽⁶⁾⁽⁷⁾	230/400V Grid SE17K	230/400V Grid SE25K*	230/400V Grid SE15K, SE27.6K*	230/400V Grid SE30K, SE33.3K*	
Compatible Power Optimisers	P800p, P850, P950, P1100	P800p, P850, P950, P1100	P800p, P850, P950, P1100	P800p, P850, P950, P1100	
Minimum String Length	Power Optimisers	14	14	14	
	PV Modules	27	27	27	
Maximum String Length	Power Optimisers	30	30	30	
	PV Modules	60	60	60	
Maximum Continuous Power per String	13500	13500	13950	13500	W
Maximum Allowed Connected Power per String ⁽⁸⁾	1 string – 15750	1 string – 15750	1 string – 16200	2 strings or less – 15750	W
	2 strings or more – 18500	2 strings or more – 18500	2 strings or more – 18950	3 strings or more – 18500	
Parallel Strings of Different Lengths or Orientations	Yes				
Maximum Difference in Number of Power Optimisers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit	Five Power Optimisers				

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

(5) P800p/P850/P950/P1100 can be mixed in one string only with P800p/P850/P950/P1100.

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

(7) For SE15K and above, the minimum STC DC connected power should be 11KW

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

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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 **CE RoHS**

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