
Power Optimizer

For Commercial Installations

M1600



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 commercial inverters SE25K and above
- A single optimizer supports up to four modules with 2 MPP trackers
- Up to 25% more energy
- Superior efficiency (99.5%)
- Extremely long string length for excellent balance of system cost
- Module-level voltage shutdown for installer and firefighter safety
- Advanced maintenance with module-level monitoring
- Fast installation with a single bolt

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M1600 (for 4 x 72-cell PV modules)		
INPUT		
Number of Inputs	2	
Connection Method	2 modules in series per input	
Number of MPP Trackers	2 (1 per Input)	
Rated Input DC Power per Input ⁽¹⁾	800	W
Absolute Maximum Input Voltage per Input (Voc at lowest temperature)	125	Vdc
MPPT Operating Range per Input	12.5 - 105	Vdc
Maximum Short Circuit Current (Isc)	12.5	Adc
Maximum Efficiency	99.5	%
Weighted Efficiency	98.8	%
Overvoltage Category	II	
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)		
Maximum Output Current	20	Adc
Maximum Output Voltage	160	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)		
Safety Output Voltage per Power Optimizer	2 ± 0.1	Vdc
STANDARD COMPLIANCE		
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3	
Safety	IEC62109-1 (class II safety)	
Fire Safety	VDE-AR-E 2100-712: 2013-05	
RoHS	Yes	
INSTALLATION SPECIFICATIONS		
Compatible SolarEdge Inverters	Three phase inverters SE25K & larger	
Maximum Allowed System Voltage	1000	Vdc
Dimensions ⁽²⁾ (W x L x H)	108.5 x 157 x 81.5 / 4.27 x 6.18 x 3.2	mm / in
Weight	1.3 / 2.9	kg / lb
Input Connector	MC4 ⁽³⁾	
Input Wire Length	0.16 / 0.52	m / ft
Output Connector	MC4	
Output Wire Length	1.2 / 3.9 (portrait installation); 2.2 / 7.2 (landscape installation)	m / ft
Operating Temperature Range ⁽⁴⁾	-40 - +85 / -40 - +185	°C / °F
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⁾ Dimensions without bracket.

⁽³⁾ For other connector types please refer to: <https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf>

⁽⁴⁾ For ambient temperature above 149°F / 65°C power de-rating is applied. Refer to [Power Optimizers Temperature De-Rating Application Note](#) for more details.

PV System Design Using a SolarEdge Inverter ⁽⁵⁾⁽⁶⁾		Three Phase for 400V Grid	Three Phase for 480V Grid	
Minimum String Length	Power Optimizers	8	9	
	PV Modules	30	36	
Maximum String Length	Power Optimizers	15		
	PV Modules	60		
Maximum Power per String ⁽⁷⁾		15,000	17,000	W
Parallel Strings of Different Lengths or Orientations		Yes		

⁽⁵⁾ It is not allowed to mix M1600 with any other optimizer models in any string, connected to the same inverter.

⁽⁶⁾ In case the number of PV modules in the string is not a multiple of 4, it is allowed to install one M1600 power optimizer connected to one, two or three PV modules. Do not leave M1600 primary inputs unconnected.

⁽⁷⁾ It is allowed to connect up to 17,250Wp (400V grid) or 19,250Wp (480V grid) when 3 strings are connected to the inverter and the maximum power difference between strings is 2000W.