Power Optimizer

For North America

S1201

POWER OPTIMIZER

SolarEdge's most advanced, cost-effective Power Optimizer for commercial and large field installations

- **Greater Energy Yields**
  - High efficiency (99.5%) with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
  - Supports high power and bifacial PV modules, and high string current for more power per string
- **Maximum Protection with Built-In Safety**
  - Designed to automatically reduce high DC voltage to touch-safe levels, upon grid/inverter shutdown, with SafeDC™
  - Includes SolarEdge Sense Connect, allowing continuous monitoring to detect overheating due to installation issues or connector-level wear and tear
- **Lower BoS Costs**
  - Flexible system design enables maximum space utilization and up to 2x longer string lengths, 50% less cables, fuses and combiner boxes
  - Supports connection of two PV modules in series with easy cable management and fast installation times
- **Simpler O&M**
  - Module-level system monitoring enabling pinpointed fault detection and remote, time-saving troubleshooting

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Power Optimizer Model (Typical Module Compatibility)	S1201 (for up to 2 x high power or bifacial modules)	Units
INPUT[1]		
Rated Input DC Power[2]	1260	W
Absolute Maximum Input Voltage (Voc)	125	Vdc
MPPT Operating Range	12.5 – 105	Vdc
Maximum Continuous Input Current	15	Adc
Maximum Short Circuit Current (Isc) of Connected PV Module	20	Adc
Maximum Adjusted Short Circuit Current (with Safety Factor)[3]	25	Adc
Maximum Efficiency	99.5	%
Weighted Efficiency	98.8	%
Overvoltage Category	II	
OUTPUT DURING OPERATION		
Maximum Output Current	18	Adc
Maximum Output Voltage	80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)		
Safety Output Voltage per Power Optimizer	1±0.1	Vdc
STANDARD COMPLIANCE		
Photovoltaic Rapid Shutdown System	NEC 2014 – 2023	
EMC	FCC Part15, IEC 61000-6-2, and IEC 61000-6-3	
Safety	IEC62109-1 (class II safety), UL1741, UL3741, CSA C22.2#107.1	
Material	UL94 V-0, UV Resistant	
RoHS	Yes	
Fire Safety	VDE-AR-E 2100-712:2013-05	
INSTALLATION SPECIFICATIONS		
Compatible SolarEdge Inverters	All commercial three phase inverters	
Maximum Allowed System Voltage	1000	Vdc
Dimensions (W x L x H)	129 x 155 x 59 / 5.08 x 6.10 x 2.32	mm / in
Weight	1106 / 2.4	gr / lb
Input Connector	MC4[4]	
Input Wire Length	1.6 / 5.25[5]	m / ft
Output Connector	MC4	
Output Wire Length	(+) 5.3 (-) 0.10 / (+) 17.38, (-) 0.32	m / ft
Operating Temperature Range[6]	-40 to +85 / -40 to +185	˚C / ˚F
Protection Rating	IP68 / NEMA6P	
Relative Humidity	0 – 100	%

(1) For detailed Power Optimizer/PV module compatibility guidelines, refer to the Application Note – Power Optimizer Compatibility with PV Modules.
(2) The 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.
(3) Adjusted for ambient temperature, irradiance, bifacial gain, safety factor, and so on, in accordance with NEC and CSA.
(4) For other connector types please contact SolarEdge.
(5) The Sense Connect feature is only enabled on the output cable connectors.
(6) For ambient temperatures above +65°C / +149°F, power derating is applied.

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PV System Design Using a SolarEdge Inverter[7][8][9][10]		208V Grid SE10K	208V Grid SE17.3K*	277/480V Grid SE20K, SE30K	277/480V Grid SE40K*	
Compatible Power Optimizers		S1201				
Minimum String Length	Power Optimizers	8	10	15	15	
	PV Modules	15	19	29	29	
Maximum String Length	Power Optimizers[9]	30	30	30	30	
	PV Modules	60	60	60	60	
Maximum Continuous Power per String		7200	8820	15,300	15,300	W
Maximum Allowed Connected Power per String[10]		1 string – 8400 2 strings or more – 10,600	1 string – 10,020 2 strings or more – 13,000	1 string – 17,550 2 strings or more – 23,000	2 strings or less – 17,550 3 strings or more – 23,000	W
Parallel Strings of Different Lengths or Orientations		Yes				
Maximum Difference in Number of Power Optimizers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit		5 Power Optimizers				

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

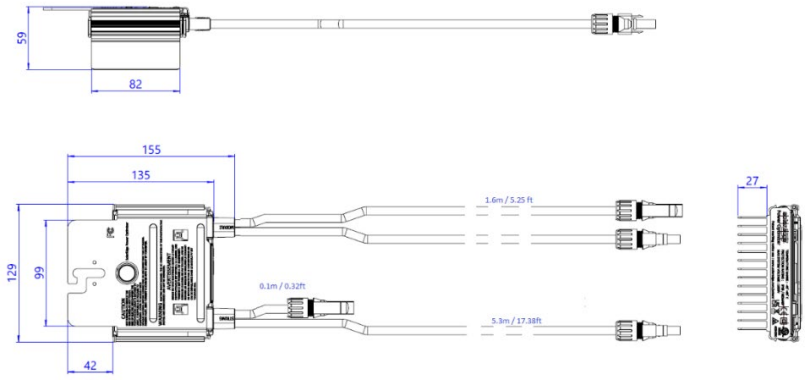
(7) S1201 cannot be mixed with any other Power Optimizers models in the same string.

(8) For each string, a Power Optimizer may be connected to a single PV module if:
- Each Power Optimizer is connected to a single PV module or
- It is the only Power Optimizer connected to a single PV module in the string.

(9) When connecting to inverters that support Rapid Shutdown, each string must contain fewer than 28 power optimizers to meet NEC Rapid Shutdown requirements.

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

S1201 Mechanical Drawing



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