# Power Optimizer

## For Europe

### S1000 / S1200

**25 YEAR WARRANTY**

## 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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### S1000 / S1200

| | S1000 | S1200 | Units |
|---|---|---|---|
| **INPUT** | | | |
| Rated Input DC Power[1] | 1000 | 1200 | W |
| Absolute Maximum Input Voltage (Voc) | 125 | | Vdc |
| MPPT Operating Range | 12.5 – 105 | | Vdc |
| Maximum Short Circuit Current (Isc) of Connected PV Module | 15 | | Adc |
| Maximum Efficiency | 99.5 | | % |
| Weighted Efficiency | 98.8 | | % |
| Overvoltage Category | II | | |
| **OUTPUT DURING OPERATION** | | | |
| Maximum Output Current | 18 | 20 | Adc |
| Maximum Output Voltage | 80 | | Vdc |
| **OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)** | | | |
| Safety Output Voltage per Power Optimizer | 1 | | Vdc |
| **STANDARD COMPLIANCE** | | | |
| EMC | FCC Part15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011[2] | | |
| Safety | IEC62109-1 (class II safety) | | |
| Material | UL94 V-0, UV Resistant | | |
| RoHS | Yes | | |
| Fire Safety | VDE-AR-E 2100-712:2018-12 | | |
| **INSTALLATION SPECIFICATIONS** | | | |
| Maximum Allowed System Voltage | 1000 | | Vdc |
| Dimensions (W x L x H) | 129 x 165 x 52 / 5.08 x 6.49 x 2.047 | 129 x 165 x 59 / 5.08 x 6.49 x 2.32 | mm / in |
| Weight (including cables) | 1064 / 2.3 | 1106 / 2.4 | gr / lb |
| Input Connector | MC4[3] | | |
| Input Wire Length | Short Input: 0.1 / 0.32 <br> Long Input: 1.3 / 4.26[4] | Short Input: 0.1 / 0.32 <br> Long Input: 1.6 / 5.24[4] | m / ft |
| Output Connector | MC4 | | |
| Output Wire Length | (+) 4.7 (-) 0.10 / (+) 15.41 (-) 0.32 | (+) 5.3 (-) 0.10 / (+) 17.38 (-) 0.32 | m / ft |
| Operating Temperature Range[5] | -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 compliance with EN55011 class A (when required), installation shall be done using an inverter with a rated power of > 20kVA, and comply with the requirements in the EMC section of the installation manual.
(3) For other connector types please contact SolarEdge.
(4) For S-Series models with long input cables (1.3m / 4.26ft or 1.6m / 5.24ft), the Sense Connect feature is only enabled on the output cable connectors.
(5) For ambient temperatures above +65°C / +149°F power derating is applied.

| S1000 Mechanical Drawing | S1200 Mechanical Drawing |
|---|---|
|  |  |
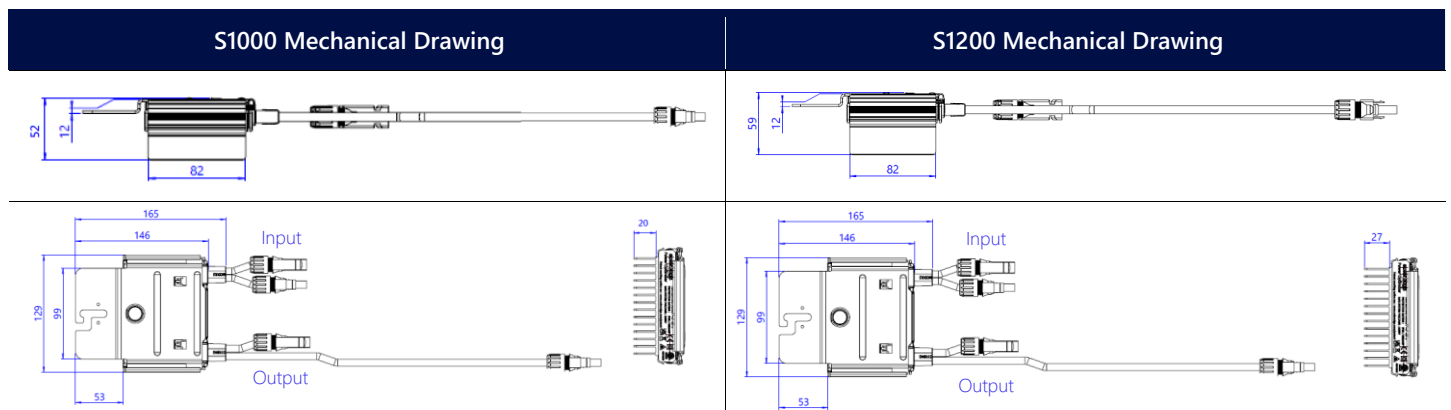
* When installing SolarEdge power optimizers, maintaining clearance is required. Refer to the Power Optimizer Clearance Application Note for more details.

# / Power Optimizer

## For Europe

### S1000

| PV System Design Using a SolarEdge Inverter[1][2][3][4] | | 230/400V Grid SE16K, SE17K, SE20K, SE25K* | 230/400V Grid SE27.6K* | 230/400V Grid SE30K* | 230/400V Grid SE33.3K* | 277/480V Grid SE40K* | Units |
|---|---|---|---|---|---|---|---|
| Compatible Power Optimizers | | S1000 | | | | | |
| Minimum String Length | Power Optimizers | 14 | 14 | 15 | 14 | 15 | |
| | PV Modules | 27 | 27 | 29 | 27 | 29 | |
| Maximum String Length | Power Optimizers | 30 | 30 | 30 | 30 | 30 | |
| | PV Modules | 60 | 60 | 60 | 60 | 60 | |
| Maximum Continuous Power per String [W] | | 13,500 | 13,950 | 15,300 | 13,500 | 15,300 | W |
| Maximum Allowed Connected Power per String[4] | | 1 string – 15,750 | 1 string – 16,200 | 1 string – 17,550 | 1 – 2 strings – 15,750 | 1 – 2 strings – 17,550 | |
| | | 2 strings or more – 18,500 | 2 strings or more – 18,950 | 2 strings or more – 20,300 | 3 strings or more – 18,500 | 3 strings or more – 20,300 | |
| 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.
(1) S1000 cannot be mixed with S1200 in the same string. For P-series compatibility please refer to the SolarEdge Power Optimizer Inter-Compatibility Technical Note.
(2) For each string, a Power Optimizer may be connected to a single PV module if:
   1) Each Power Optimizer is connected to a single PV module (the entire string has a 1:1 configuration).
   2) It is the only Power Optimizer connected to a single PV module.
(3) For SE16K and above, the minimum STC DC connected power should be 11KW.
(4) To connect more STC power per string, design your project using SolarEdge Designer.

### S1200

| PV System Design Using a SolarEdge Inverter[5][6][7][8] | | 230/400V Grid SE20K, SE25K* | 230/400V Grid SE27.6K* | 230/400V Grid SE30K* | 230/400V Grid SE33.3K*[9] | 277/480V Grid SE40K* | Units |
|---|---|---|---|---|---|---|---|
| Compatible Power Optimizers | | S1200 | | | | | |
| Minimum String Length | Power Optimizers | 14 | 14 | 15 | 14 | 15 | |
| | PV Modules | 27 | 27 | 29 | 27 | 29 | |
| Maximum String Length | Power Optimizers | 30 | 30 | 30 | 30 | 30 | |
| | PV Modules | 60 | 60 | 60 | 60 | 60 | |
| Maximum Continuous Power per String [W] | | 15,000 | 15,500 | 17,000 | 15,000 | 17,000 | W |
| Maximum Allowed Connected Power per String[8] | | 1 string – 17,250 | 1 string – 17,750 | 1 string – 19,250 | 1 – 2 strings – 17,250 | 1 – 2 strings – 19,250 | |
| | | 2 strings or more – 20,000 | 2 strings or more – 20,500 | 2 strings or more – 23,000 | 3 strings or more – 20,000 | 3 strings or more – 23,000 | |
| 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.
(5) S1200 cannot be mixed with any other power optimizer in the same string.
(6) For each string, a Power Optimizer may be connected to a single PV module if:
   1) Each Power Optimizer is connected to a single PV module (the entire string has a 1:1 configuration).
   2) It is the only Power Optimizer connected to a single PV module.
(7) For SE20K 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.
(9) When there is a need to connect fewer than 81 modules (3 strings) to an inverter unit, other rules can apply. Refer to the Two String Design Application Note.

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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