Power Optimizer

For Europe

S1400

25 YEAR WARRANTY

SolarEdge's most powerful and compact 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 up to 700W high power and 20A high current modules, including bifacial and G12 modules

/ 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, for connector-level monitoring during production to detect overheating due to installation issues or wear and tear

/ Lower BoS Costs with Flexible Design

- / More power with up to 30.4kW per string for optimal usage of the installation area, enabling up to 2x longer and fewer strings, and 50% fewer cables, fuses, and combiner boxes
- / Compact size and slimmer profile for simple cost-effective installations, especially in challenging spaces
- / Connects to two PV modules in series

/ Simpler O&M

- / Module-level system monitoring enabling pinpointed fault detection
- / Remote, time-saving troubleshooting for fewer truck rolls and less time on-site

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S1400

	S1400	Unit
INPUT		
Rated Input DC Power[1]	1400	W
Absolute Maximum Input Voltage (Voc)	125	Vdc
MPPT Operating Range	12.5 – 105	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module[2]	20	Adc
Maximum Efficiency	99.5	%
Weighted Efficiency	98.8	%
Overvoltage Category	II	
OUTPUT DURING OPERATION		
Maximum Output Current	24	Adc
Maximum Output Voltage	80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR OFF)		
Safety Output Voltage per Power Optimizer	1 ± 0.1	Vdc
STANDARD COMPLIANCE		
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011[3]	
Safety	IEC 62109-1 (class II safety)	
Material	UL 94 V-0, UV Resistant	
RoHS	Yes	
Fire Safety	VDE-AR-E 2100-712:2013-05	
INSTALLATION SPECIFICATIONS		
Compatible Inverters	Commercial inverters without integrated DC fuses[4]	
Maximum Allowed System Voltage	1000	Vdc
Dimensions (W x L x H)	129 x 165 x 52 / 5.08 x 6.49 x 2.04	mm / in
Weight	1087 / 2.39	gr / lb
Input Connector	MC4[5]	
Input Wire Length	Short Input Option: 0.1 / 0.32 Long Input Option: 1.8 / 5.9[6]	m / ft
Output Connector	MC4	
Output Wire Length	(+) 5.7 (-) 0.10 / (+) 18.7 (-) 0.32	m / ft
Operating Temperature Range[7]	-40 to +85 / -40 to +185	°C / °F
Protection Rating	IP68 / NEMA6P	
Relative Humidity	0 – 100	%

(1) 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.
(2) When using bifacial modules, consider only the front side Isc at STC (0% back side gain). For details, see the Compatibility of Bifacial Modules with SolarEdge Power Optimizers application note.
(3) 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 Three Phase System with SetApp Configuration installation manual.
(4) S1400 is designed to be paired with inverters that do not have integrated DC fuses. Inverters with DC fuses must be manually adjusted, as described in this technical note.
(5) For other connector types please contact SolarEdge.
(6) For S-Series models with long input cables (1.8m / 5.9ft), the Sense Connect feature is only enabled on the output cable connector.
(7) For ambient temperatures above +65°C / +149°F power derating is applied.

S1400 Mechanical Drawing
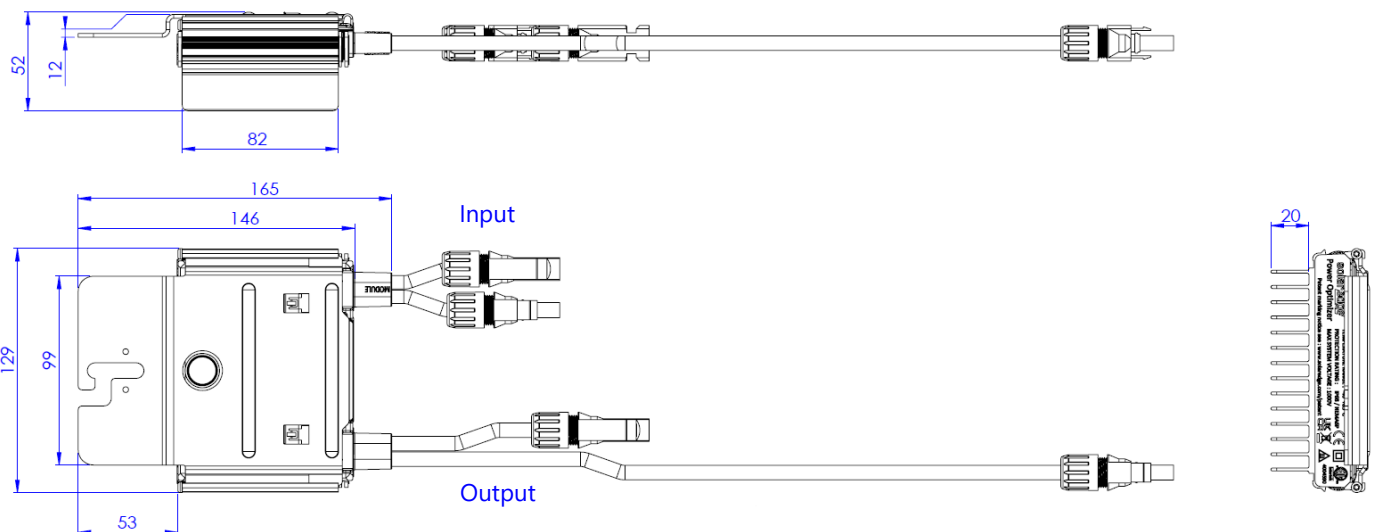
* When installing SolarEdge power optimizers, maintaining clearance is required. For details, see the Power Optimizer Clearance application note.

CE RoHS

/ Power Optimizer

S1400

PV System Design Using a SolarEdge Inverter[8][9][10]		230/400V Grid SE20K, SE25K*	230/400V Grid SE27.6K*	230/400V Grid SE30K*	230/400V Grid SE33.3K*	277/480V Grid SE40K*	Units
Compatible Power Optimizers		S1400					
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		18,000	18,600	20,400	18,000	20,400	W
Maximum Allowed Connected Power per String[11]		1 string – 20,250	1 string – 20,850	1 string – 22,650	1 string – 20,250	1 string – 22,650	
		2 strings or more – 28,000	2 strings or more – 28,600	2 strings or more – 30,400	2 strings or more – 28,000	2 strings or more – 30,400	
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.

(8) S1400 cannot be mixed with any other Power Optimizers models in the same string.

(9) 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 or
  2) It is the only Power Optimizer connected to a single PV module in the string.

(10) For SE20K and above, the minimum STC DC connected power should be 11KW.

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

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