

SP1400D Optimizer



MORE PRODUCTION

- Up to 5-30 % increased power generation
- Maximum single string output power up to 19.5 kW



FLEXIBLE DESIGN AND EASY TO INSTALL

- Patented structure to save installation time up to 45 %
- High current design, long strings supported, effectively reducing BOS



SAFE AND RELIABLE

- Rapid shutdown function within 20 seconds
- Patented FHC (Fault Heat Control) circuit design, lower failure rates, longer service life



EFFICIENT O&M

- Rapid data refresh in 10 seconds
- Supported 7 Module-level IV diagnosis status for lifecycle management *



Type designation		SP1400D
Input		
Max. input voltage		125 V
MPPT voltage range		12.5 V – 105 V
Max. DC short-circuit current per channel (I _{sc})		30 A
Max. system voltage		1100 V
Overvoltage category		II
Output		
Rated output power		1400 W
Max. output current		23 A
Bypass working mode		Yes
Safety output voltage		1 V
Efficiency		
Max. efficiency		99.5 %
Weighted efficiency		99.0 %
General data		
Dimensions (W * H * D)		143 mm * 86 mm * 53 mm
Weight (including cables)		1.0 kg
Degree of protection		IP68
Allowable relative humidity range (non-condensing)		0 % – 100 %
Operating ambient temperature range		-40 °C – 85 °C
Max. operating altitude		4000 m
Mounting method		Snap-fit or bolt installation
Communication		PLC (≤ 450 m)
PV input / output connector		Stäubli MC4 / MC4 compatible (Optional)
PV input wire length		1.4 m (+ / -)
PV output wire length		0.2 m (+) / 2.95 m (-)
Standard compliance		IEC 61000-6-2, IEC 61000-6-3, IEC 62109-1 (class II safety), IEC 60529
Compatible products		SG25 / 30 / 33 / 36 / 40 / 50CX-P2 ** SG125CX-P2 **
Configuration		
Number of supported PV modules in one string		8 - 50
The difference in the number of optimizers between parallel strings under the same MPPT path **		Parallel strings are not supported. Only one string of optimizers is supported under a single MPPT
Maximum number of optimizers supported by a single communication device		240: Winet-S2 4900***: Logger1000 / Logger1000-EU

As a reference, the chart below is a recommended configuration of optimizer SP1400D system

Type designation	SG125CX-P2	SG50CX-P2	SG36CX-P2	SG33CX-P2	SG30CX-P2	SG25CX-P2
Max No. of Optimizers per string	25	25	25	25	25	25
Min No. of Optimizers per string	4	4	4	4	4	4
Max. Power limitation per string	19.5 kW	19.5 kW	19.5 kW	18.4 kW	18.4 kW	18.4 kW
No. of Strings per inverter						
DC: AC Ratio < 1.1	7-12	3-4	2-4	2-3	2-3	2-3
DC: AC Ratio 1.1-1.3	7-12	3-4	2-4	2-3	2-3	2-3

* Currently 7 kinds of typical diagnosis at module level are available

** Please consult Sungrow before placing an order on optimizers and compatible inverters

*** Please use multiple Logger1000 when over 4900 optimizers

Please connect to two RS485 ports when over 3000 optimizers for single Logger1000

