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 (Isc)	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	IP 68
Allowable relative humidity range (non-condensing)	0 % – 100 %
Operating ambient temperature range	-40 ℃ to 85 ℃
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 (+ / -)
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
Enclosure material rating	UL94 V-0
Compatible products	SG25 / 30 / 33 / 36 / 40 / 50CX-P2 ** SG125CX-P2 ** SG150CX **
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 **	SG25-50CX-P2、SG125CX-P2: Parallel strings are not supported SG150CX : Maximum of 2 PV strings in parallel per MPPT channel
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	SG150CX	SG125CX-P2	SG50CX-P2	SG36CX-P2
Max No. of Optimizers per string	25	25	25	25
Min No. of Optimizers per string	4	4	4	4
Max. Power limitation per string	19.5 kW	19.5 kW	19.5 kW	19.5 kW
No. of Strings per inverter				
DC: AC Ratio < 1.1	8-14	7-12	3-4	2-4
DC: AC Ratio 1.1-1.3	8-14	9-12	3-4	2-4

* 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