CSG SMART

(4BB)

CSGsmart Solar Module

CSGsmart module features an innovative integration of SolarEdge's power optimization and CSG's module technology for grid-tied PV application.

CSGsmart module can harvest up to 25% more energy from each module, and optimizes power output at module-level. Meanwhile, to monitor the system performance by Computer, Phone APP or Pad App is available.

By replacing the traditional junction-box with a SolarEdge power optimizer, the Smart DC module optimizes power output at module-level. With this eature, the Smart DC module can eliminate the module-level mismatch and decrease shading losses. Furthermore, the Smart DC module provides module-level data to minimize operational costs and allow effective system management.

Key Features:

Harvest up to 25% more energy from each module

- Maximize power from each individual module, eliminate the potential mismatch risk;

- Decrease the shading losses;

Simple system design

- Longer and uneven string using CSGsmart module, different power range module and installation angle are available.

- Up to 50 optimizers per string, saves up to 50% of the cable and other costs;

- Reduce cell series resistance

Reduce O&M Costs

-Full visibility of system performance

- Automatic warning of the system problem;

- Monitoring system through internet;

More Safety

- Automatic drop of DC current and voltage when inverter or grid power is shutdown;

- CSGsmart module can reduce the arcing possibility during system running;

Typical Electrical Characteristics

Solar cells:	Poly-Crystalline 156X156mm 60pcs (6×10) —— 4 bus bars	
Max-power	Power Optimizer connected to a SolarEdge Inverter	
Power Tolerance	255	260
Power Tolerance	0 to +6W	
Voltage at Pmax (Vmp)	5.0-60.0	5.0-60.0
Current at Pmax (Imp)	15A	15A
Open-Circuit Voltage (Voc)	37.9	38.2
Short-Circuit Current (Isc)	8.87	8.99
Output During Standby (power optimizer disconnected from inverter or inverter off)	1	

PV System Design

Min. String Length	EU	1ph	8	
		3ph	16	
		3ph-MV	18	
	US	1ph	8	
		3ph(280V)	10	
Max. String Length	EU	1ph	20	19
		3ph	43	42
		3ph-MV	49	48
	US	1ph	20	19
		3ph(280V)	23	22
Max. Power per String (W)	EU	1ph	5250	
		3ph	11250	
		3ph-MV	12750	
	US	1ph	5250	
		3ph(280V)	6000	
Parallel Strings of Different Lengths	yes			
Parallel Strings of Different Orientations	yes			
Max. System Voltage	1000V (IEC) / UL (600V)			
Operating Temperature	-40℃~85℃			
Application Classification	Class A			
Fire rating	Class C (IEC61730)			

Standard Compliance

EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3
PV Optimizer Junction Box	EN50548, UL3730, IEC2109-1(Class II Safety), UL1741
Fire Safety	VDE-AR—E 2100-721:2013-05

Temperature Characteristics

Temperature Coefficient of Pmax	-0.45%/℃
Temperature Coefficient of Voc	-0.34%/℃
Temperature Coefficient of Isc	0.05%/℃
Nominal Operating Cell Temperature	45±2 ℃

*STC Conditions (1000W/m²; 1.5 AM and 25℃ Cell temperature)

Mechanical Characteristics

Cable type, Diameter and Length	Φ=6mm2, L=950mm
Type of Connector	Compatible type MC4
Dimension A×B×C	1640×992×45mm
No. of Draining Holes In Frame	16
Construction	Glass: High Transmission, Low Iron, Tempered Glass, 3.2mm Encapsulation: EVA Junction Box: Power Optimizer, Automatic match the MPPT of the solar module, to reach the Max. power generation during outdoor running.
Junction Box	IP 67
Weight	19kg

Qualification Test Parameters

Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40 oC to +85 oC
Max load	5400 Pa
Hailstone impact	25mm (1inch) at 23m/s (52mph)