S-ENERGY

SM-XXXPC8 series

215 ~ 230 Watt Photovoltaic Module

High-efficiency photovoltaic module using silicon nitride polycrystalline cells.

Performance

Rated power (P_{max})	215 ~ 230W
Nominal voltage	24V
Limited Warranty	30 years

Electrical Characteristics

Electrical Characteristics	SM-215PC8	SM-220PC8	SM-225PC8	SM-230PC8
Maximum power (P_{max})	215W	220W	225W	230W
Voltage at Pmax (V_{mp})	28.5V	28.9V	29.2V	29.4V
Current at Pmax (I_{mp})	7.57A	7.62A	7.72A	7.84A
Warranted minimum P_{max}	208W	213W	218W	223W
Short-circuit current (I_{sc})	8.20A	8.24A	8.34A	8.45A
Open-circuit voltage (V_{oc})	36.1V	36.3V	36.6V	36.9V
Temperature coefficient of I_{sc}	0.04%/℃	0.04%/℃	0.04%/℃	0.04%/℃
Temperature coefficient of V_{oc}	-0.32%/℃	-0.32%/℃	-0.32%/℃	-0.32%/℃
Temperature coefficient of power	-0.35%/℃	-0.35%/℃	-0.35%/℃	-0.35%/℃
NOCT (Air 20℃; Sun 0.8kW/㎡; Wind 1m/s)	47±2℃	47±2℃	47±2℃	47±2℃
Maximum Series fuse rating	15A	15A	15A	15A
Maximum system voltage	600V	600V	600V	600V
Module efficiency	12.92%	13.22%	13.52%	13.82%

Mechanical Characteristics

Dimensions	Length : 1665mm	Width : 999mm	Depth : 50mm
Weight	20 kg		
Solar Cells	60 cells (156mm x 156mm) in a 6 x 10 matrix connected in series		
Output Cables	RHW-2, 12AWG (4mm^2) cable with polarized weatherproof DC rated connectors; Cable length-1000mm (+ -)		
Construction	Front : High-transmission 3.2mm low iron tempered glass; White back sheet Encapsulant; EVA		
Frame	Anodized aluminum frame; Color: silver		

1. Warrant : Power output for 30 years (90% of minimum output power per 10 years, 80% of minimum output power per 30 years). Freedom from defects in materials and workmanship for 10 years.
2. These data represent the performance of typical SM-XXXPC8 products, and are based on measurements made in accordance with ASTM E1038 corrected to SRC (STC)
3. During the stabilization process that occurs during the first few months of deployments, module power may decrease by up to 3% from typical P_{max}

S-ENERGY

SM-XXXPC8 series

235 ~ 245 Watt Photovoltaic Module

High-efficiency photovoltaic module using silicon nitride polycrystalline cells.

Performance

Rated power (P_{max})	235 ~ 245W
Nominal voltage	24V
Limited Warranty	30 years

Electrical Characteristics	SM-235PC8	SM-240PC8	SM-245PC8
Maximum power (P_{max})	235W	240W	245W
Voltage at Pmax (V_{mp})	29.6V	29.8V	30.1V
Current at Pmax (I_{mp})	7.95A	8.08A	8.14A
Warranted minimum P_{max}	227W	232W	237W
Short-circuit current (I_{sc})	8.56A	8.63A	8.67A
Open-circuit voltage (V_{oc})	37.1V	37.4V	37.5V
Temperature coefficient of I_{sc}	0.04%/℃	0.04%/℃	0.04%/℃
Temperature coefficient of V_{oc}	-0.32%/℃	-0.32%/℃	-0.32%/℃
Temperature coefficient of power	-0.35%/℃	-0.35%/℃	-0.35%/℃
NOCT (Air 20℃; Sun 0.8kW/㎡; Wind 1m/s)	47±2℃	47±2℃	47±2℃
Maximum Series fuse rating	15A	15A	15A
Maximum system voltage	600V	600V	600V
Module efficiency	14.12%	14.42%	14.72%

Mechanical Characteristics

Dimensions	Length : 1665mm	Width : 999mm	Depth : 50mm
Weight	20 kg		
Solar Cells	60 cells (156mm x 156mm) in a 6 x 10 matrix connected in series		
Output Cables	RHW-2, 12AWG (4mm^2) cable with polarized weatherproof DC rated connectors; Cable length-1000mm (+ -)		
Construction	Front : High-transmission 3.2mm low iron tempered glass; White back sheet Encapsulant; EVA		
Frame	Anodized aluminum frame; Color: silver		

1. Warrant : Power output for 30 years (90% of minimum output power per 10 years, 80% of minimum output power per 30 years). Freedom from defects in materials and workmanship for 10 years.
2. These data represent the performance of typical SM-XXXPC8 products, and are based on measurements made in accordance with ASTM E1038 corrected to SRC (STC)
3. During the stabilization process that occurs during the first few months of deployments, module power may decrease by up to 3% from typical P_{max}

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SM-XXXPC8 series

215 ~ 245 Watt Photovoltaic Module

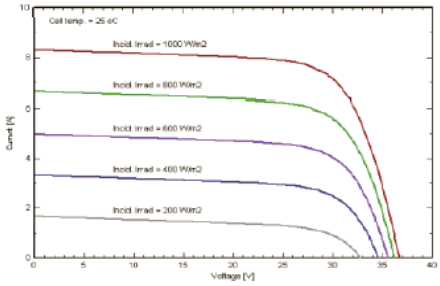
High-efficiency photovoltaic module using silicon nitride polycrystalline cells.

Quality Assurance

S-Energy photovoltaic modules have passed the following tests.

Thermal shock / cycling test	Mechanical loading test
UV preconditioning test	Hot-spot endurance test
Humidity – Freeze test	Water proof test
Electrical insulation test	Reverse current overload test
Impact test	Fire test

Irradiance coefficient

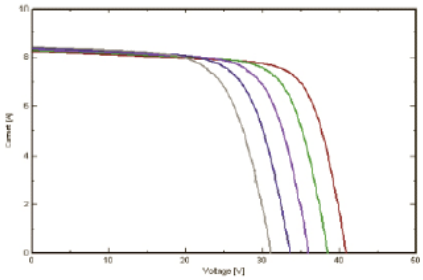


Qualification Test Parameters

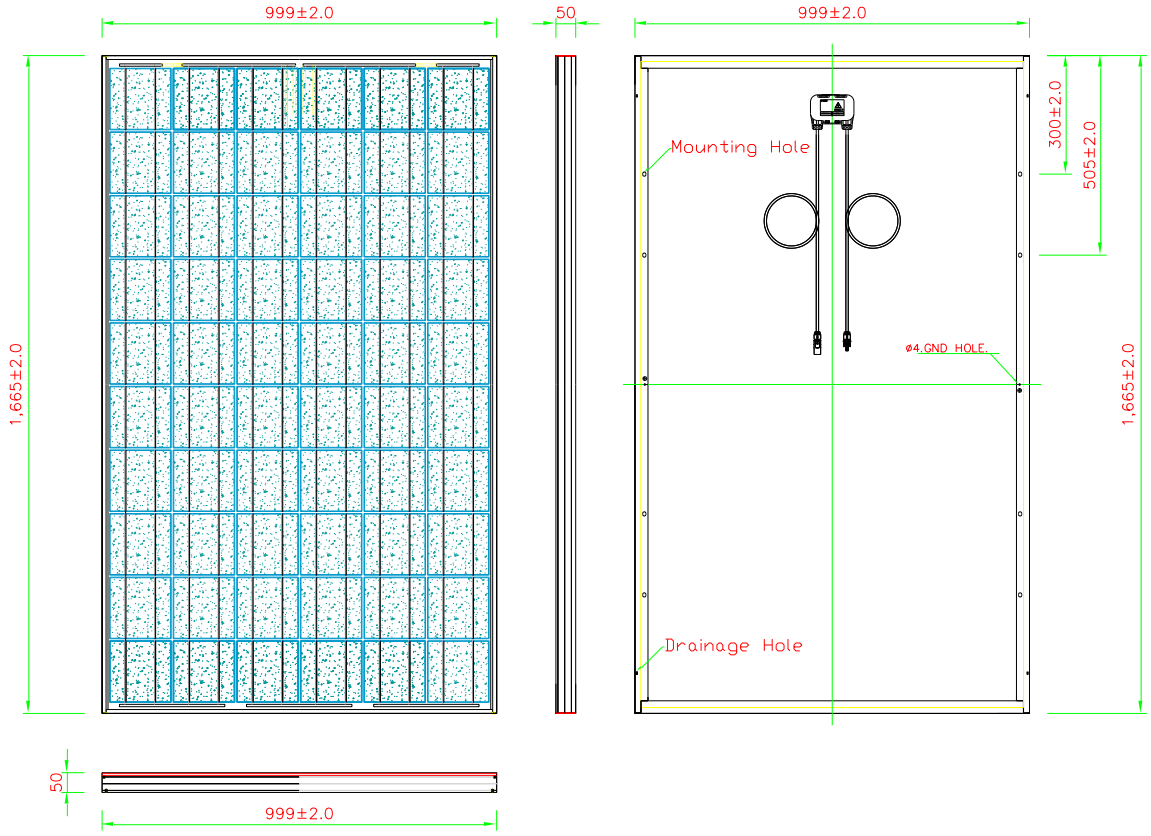
Tests are proceeded by UL 1703 standard.

Thermal cycling Range	-40℃ to +85℃
Humidity Freeze	-40℃ to +85℃(85% RH)
Static load front and back	30 lb/ft^2
STC	1000W/㎡ ; 25℃ ; AM 1.5

Temperature coefficient



Module Diagram



NOTE : This publication summarizes product warranty and specification, which are subject to change without notice