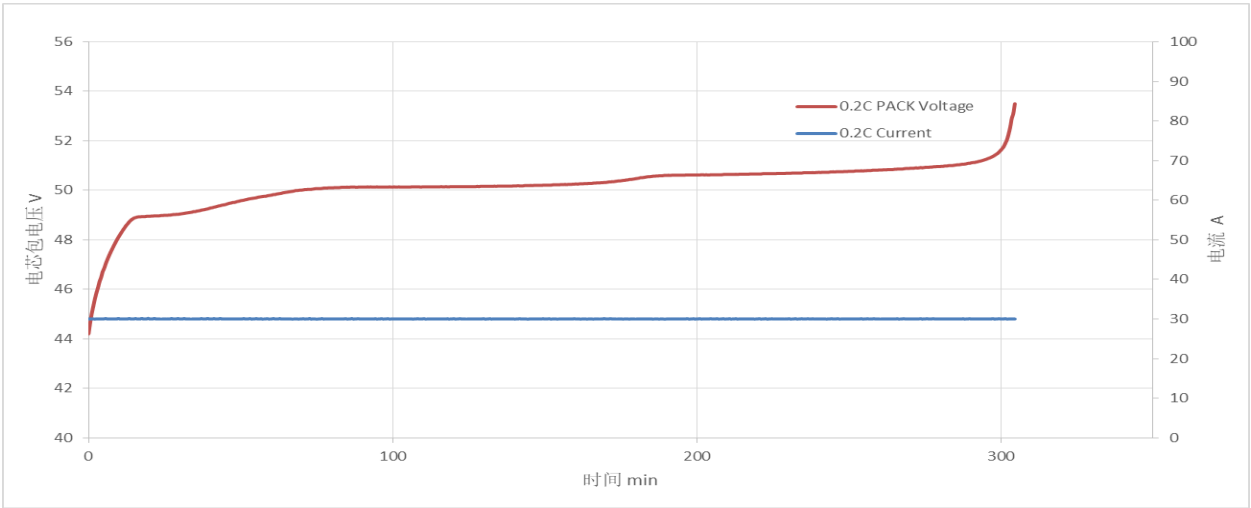


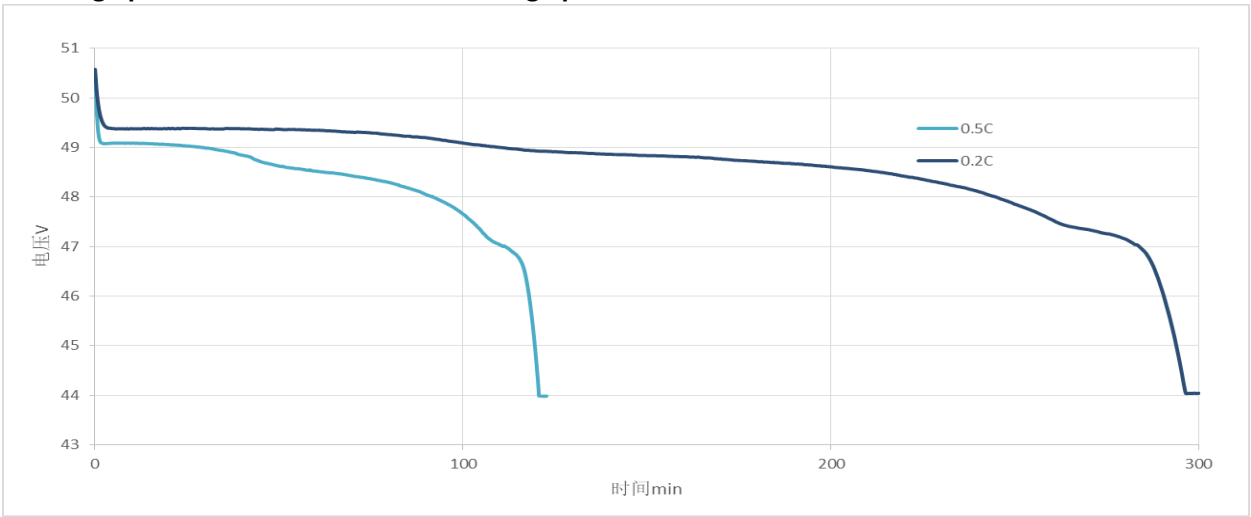
Power Storage Module/ batteries Should be equivalent to following specs

	Item	Description
Basic Parameters	Product model	ESM-48150A3
	Cathode material	LiFePO ₄
	Nominal voltage	48 Vdc
	Nominal charging voltage	53.5 Vdc
	Max. Charging / Discharging Current Limited	100 A / 100 A @ 35°C
	Cycle life	6000 cycles @ 0.5C, 85% DOD, 70% EOL, 35°C
	Nominal capacity	150 Ah@0.2C, 48V, 35° C (7200 Wh @ 1440W, 35°C)
	Weight	Approx. 65kg
	Dimension (W×D×H)	442 mm×560 mm×130 mm (excluding mounting ear)
	Self discharge @ 25°C	Less than 5% after 90 days storage
	Communication interface	CAN / RS485; 2 dry contacts
	Max. Quantity of Parallel Connection	CAN: 32; RS485: 16
	Max. load power supported in parallel	24kW
	Terminal	M6, torque 4 N·m
	Installation type	Standard 19" rack, Air conditioning system or direct ventilation cabinet
	Protection & Alarm	Over temperature, overcurrent, short circuit, overcharge, overdischarge, etc.
	Certification	CE, UN38.3
	Design life	15 years
	Item	Description
Environment	Storage Temperature ^②	Storage: 0°C to 40°C
	Transportation Temperature	-40°C to 60°C
	Operating Temperature ^③	Charging: 0°C to 45°C; Discharging: -20°C to 45°C
	Relative Humidity	5% to 95%
	Atmospheric pressure	61kPa~113kPa

Charge curve @ 0.2C, 35°C



Discharge performance @ different discharge power @ 35°C



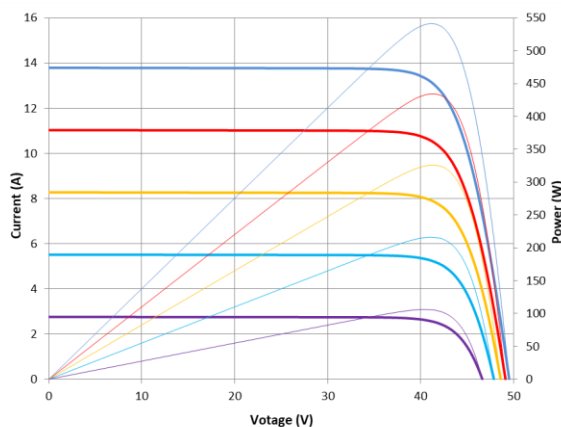
Solar Panels

Introduction

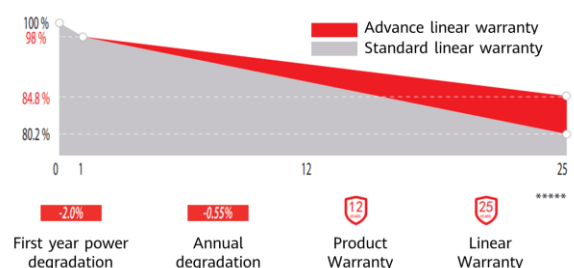
A high efficient monocrystalline silicon solar module, high technology that widely used in photovoltaic products, excellent optical performance, reliable output and long lifespan.

IP68 Rated Junction Box

IP68 rated junction box ensures an outstanding waterproof level, supports installations in all orientations and reduces stress on the cables. High reliable performance, low resistance connectors ensure maximum output for the highest energy production.



- Module efficiency up to 20.9% achieved through advanced cell technology and manufacturing process
- High mechanical load strength: withstanding snow loads 5400 Pa positive pressure & extreme wind 2400 Pa negative pressure
- More power output in weak light condition, such as cloudy, morning and sunset
- Passed major international certificate: VDE, IEC 61215, IEC 61730 and CE etc.
- 25 years linear warranty. Power degradation: first year -2%, annual -0.55%
- Guaranteed positive tolerance: 0-5W ensures power



Specs should be equivalent to following

Specifications

Electrical Characteristics

STC

Maximum Power * (Pmax)	540 Wp
Power Tolerance	0/+5W
Optimum Operating Voltage (Vmp)	41.75 V
Optimum Operating Current (Imp)	12.94 A

Open Circuit Voltage (Voc)	49.54 V
Short Circuit Current (Isc)	13.89 A
Maximum System Voltage	1500 V DC (IEC)
Maximum Series Fuse Rating	25A
Module Efficiency	20.9 %
*The electronic parameters are tested at STC, the Voltage and current parameters have tolerance of $\pm 3\%$. (STC: irradiance 1000 W/m ² , module temperature 25°C, AM=1.5)	
NMOT	
Maximum Power * (Pmax)	408.0 W
Optimum Operating Voltage (Vmp)	38.6 V
Optimum Operating Current (Imp)	10.58 A
Open Circuit Voltage (Voc)	46.5 V
Short Circuit Current (Isc)	11.13 A
*The electronic parameters are tested at NMOT (NMOT: irradiance 800 W/m ² , ambient temperature 20°C, AM=1.5, wind speed = 1 m/s)	
Rating Characteristics	
Operating Module Temperature	-40°C to 85°C, nominal module operating temperature (NMOT) 42±2°C
Maximum Positive Pressure	5400 Pa
Maximum Negative Pressure	2400 Pa
Mechanical Characteristics	
Cells Quantity	144 (6%24) in series
Cell Type	Monocrystalline silicon 182mm solar Cells
Weight	29.1 kgs (64.2 lbs.)
Dimensions (L×W×H)	2279 × 1134 × 35 mm (89.7 × 44.6 × 1.4 inches)
Front Glass	3.2 mm (0.126 inches) high transmission, tempered glass
Junction Box	IP68 rated (3 bypass diodes)
Temperature Characteristics	
Temperature coefficient @ Maximum Power (Pmax)	-0.36%/°C
Temperature coefficient @ Open Circuit Voltage (Voc)	-0.304%/°C
Temperature coefficient @ Short Circuit Current (Isc)	0.050%/°C