

# HC-SPR-P6-410 FULL BLACK 400W~415W

## MONOCRYSTALLINE MODULE

### ADVANCED PERFORMANCE & PROVEN ADVANTAGES


- High module conversion efficiency up to 21.25% by using innovative Half-cell design and Multi-busbar(MBB) cell technology.
- Low temperature coefficient and excellent performance under high temperature and low light conditions.
- Robust aluminium frame ensures the modules can withstand wind loads up to 2400Pa and snow loads up to 5400Pa.
- High reliability against extreme environmental conditions (passing salt mist, ammonia and hail tests).
- Potential induced degradation (PID) resistance.
- Aesthetically appealing design with black backsheet and frame.

### CERTIFICATIONS

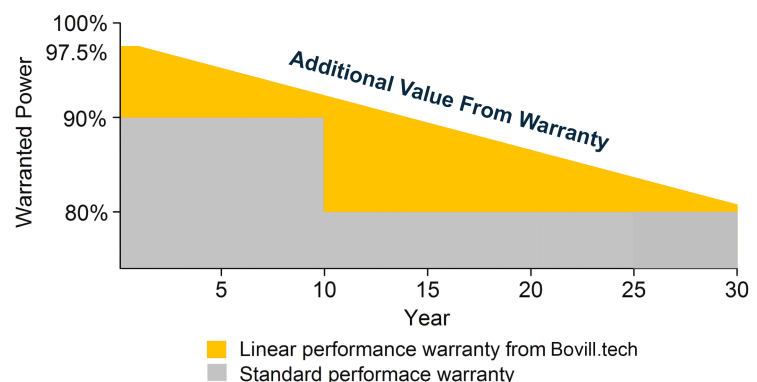
- IEC 61215, IEC 61730, CE
- ISO 9001:2015: Quality management system
- ISO 14001:2015: Environmental management system
- ISO 45001:2018: Occupational health and safety management system



### LIFE TERM WARRANTY

- 40 years product warranty (extendable to lifetime 99 year warranty)
- 40 years linear power output warranty (extendable to lifetime 99 year warranty)
- Designed in the UK 

**Passionately**  
**committed to**  
**delivering innovative**  
**energy solutions**



## ELECTRICAL CHARACTERISTICS AT STC

Maximum Power ( $P_{max}$ )	400W	405W	410W	415W
Open Circuit Voltage ( $V_{OC}$ )	37.2V	37.4V	37.6V	37.8V
Short Circuit Current ( $I_{SC}$ )	13.70A	13.76A	13.82A	13.88A
Voltage at Maximum Power ( $V_{mp}$ )	31.0V	31.2V	31.4V	31.6V
Current at Maximum Power ( $I_{mp}$ )	12.91A	12.99A	13.06A	13.14A
Module Efficiency (%)	20.49	20.74	21.00	21.25
Operating Temperature	-40°C to +85°C			
Maximum System Voltage	1000V DC/1500V DC			
Fire Resistance Rating	Type 1(in accordance with UL1703)/Class C(IEC61730)			
Maximum Series Fuse Rating	25A			

STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM1.5; Tolerance of P<sub>max</sub>: ±3%; Measurement Tolerance: ±3%

## ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power ( $P_{max}$ )	300W	304W	308W	312W
Open Circuit Voltage ( $V_{OC}$ )	34.2V	34.4V	34.6V	34.8V
Short Circuit Current ( $I_{SC}$ )	11.10A	11.15A	11.20A	11.25A
Voltage at Maximum Power ( $V_{mp}$ )	28.2V	28.4V	28.6V	28.8V
Current at Maximum Power ( $I_{mp}$ )	10.64A	10.71A	10.77A	10.84A

NOCT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind Speed 1 m/s

## MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline PERC 182*91mm
Number of cells	108 (6x18)
Module dimensions	1722x1134x35mm (67.80x44.65x1.38inches)
Weight	21.5kg (47.4lbs)
Front cover	3.2mm (0.13inches) tempered glass with AR coating
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm <sup>2</sup> (0.006inches <sup>2</sup> ), Portrait: 300mm (11.81inches); Landscape: 1200mm (47.24inches)
Connector	MC4 or MC4 compatible

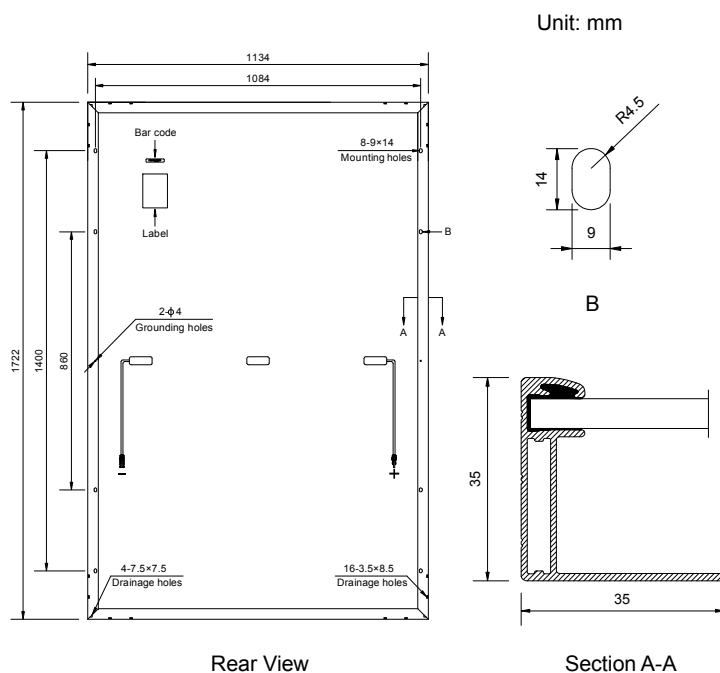
## TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	43°C±2°C
Temperature Coefficients of $P_{max}$	-0.36%/°C
Temperature Coefficients of $V_{OC}$	-0.28%/°C
Temperature Coefficients of $I_{SC}$	0.05%/°C

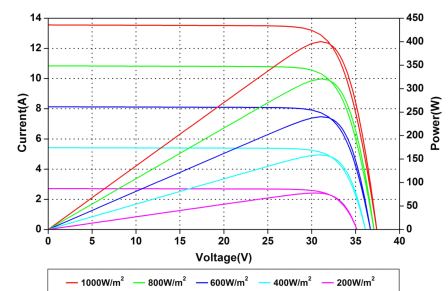
## PACKAGING

Standard packaging	31pcs/pallet
Module quantity per 20' container	186pcs
Module quantity per 40' container	806pcs (HQ)

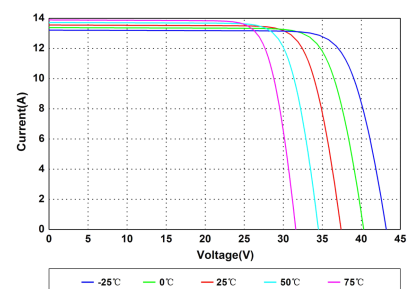
## ENGINEERING DRAWINGS



## IV CURVES



Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures

Specifications in this datasheet are subject to change without prior notice.