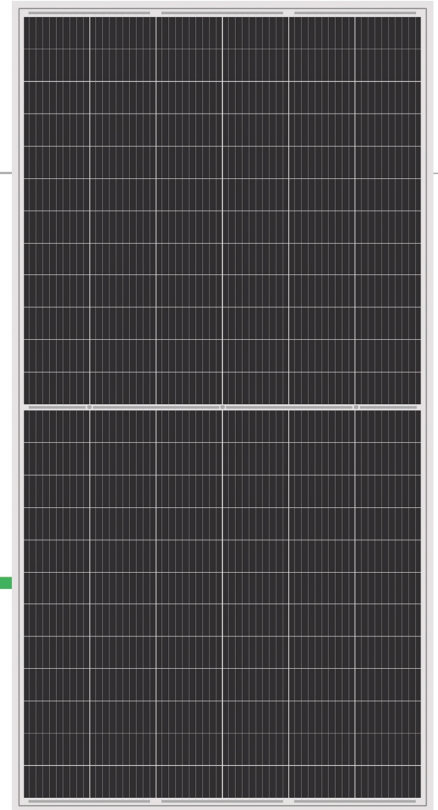


SQUARE MONO



# Half Cell 410W-420W

**144 CELL**  
MONOCRYSTALLINE MODULE

**410W-420W**  
POWER OUTPUT RANGE

**20.9%**  
MAXIMUM EFFICIENCY

**0 to +3%**  
POSITIVE POWER TOLERANCE

## CERTIFICATION



### Higher Output of Power

Effectively reduce the unit cost of PV solar system by watt



### Optimize the temperature coefficient

Improve the performance under the condition of shadow and low temperature coefficient



### Reduce the shadow loss on the power output

Effectively reduce the risk of heat spot on high efficiency

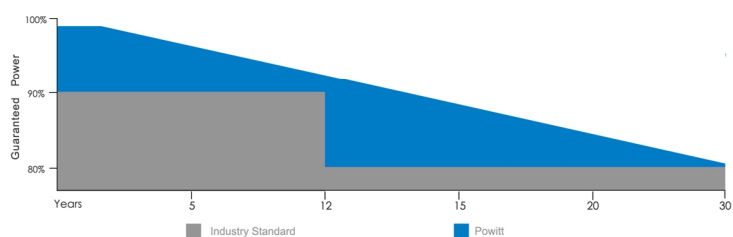


### Stronger the physical property

Optimize the property of power generating and reliability of the system

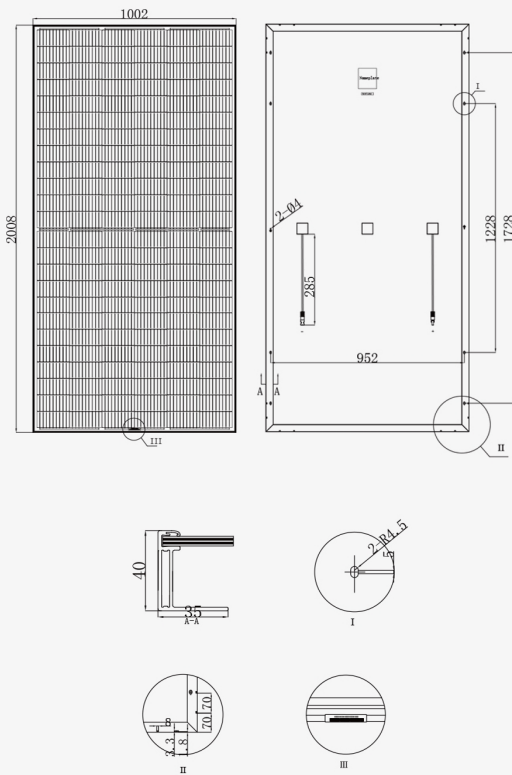
## LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty · 30 Year Linear Power Warranty

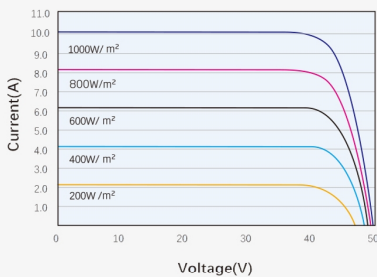


[www.powitt.com](http://www.powitt.com)

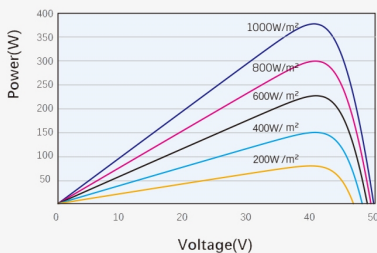
### DIMENSIONS OF PV MODULE



### I-V CURVES OF PV MODULE



### P-V CURVES OF PV MODULE



### ELECTRICAL DATA @STC

	PHC-410M	PHC-415M	PHC-420M
Peak Power Watts-P <sub>MAX</sub> (Wp)	410	415	420
Power Output Tolerance-P <sub>MAX</sub> (%)	0/+3	0/+3	0/+3
Maximum Power Voltage-V <sub>MPP</sub> (V)	42.30	42.60	42.90
Maximum Power Current-I <sub>MPP</sub>	9.69	9.74	9.79
Open Circuit Voltage-V <sub>OC</sub> (V)	50.4	50.7	50.9
Short Circuit Current-I <sub>SC</sub> (A)	10.60	10.72	10.84
Module Efficiency η <sub>m</sub> (%)	20.4	20.6	20.9

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3. Average efficiency reduction of 4.5% at 200 W/m<sup>2</sup> according to EN 60904-1.

### ELECTRICAL DATA @ NOCT

	PHC-410M	PHC-415M	PHC-420M
Maximum Power-P <sub>MAX</sub> (Wp)	310	314	318
Maximum Power Voltage-V <sub>MPP</sub> (V)	40.00	39.80	40.00
Maximum Power Current-I <sub>MPP</sub> (A)	7.76	7.82	7.88
Open Circuit Voltage-V <sub>OC</sub> (V)	48.90	49.10	49.30
Short Circuit Current-I <sub>SC</sub> (A)	8.26	8.32	8.38

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

### MECHANICAL DATA

Solar Cells	9BB Square Mono PERC 158.75 x 79.375mm
Cell Orientation	144 cells(6 x 24)
Module Dimensions	2008 x 1002 x 40 mm
Weight	22.4 kg
Glass	High Transparency, Anti-Reflective, AR Coated and Heat Tempered Solar Glass - 3.2mm
Backsheet	White
Frame	Silver Anodized Aluminium Alloy (Black Available)
J-Box	IP 68 rated
Cables	Photovoltaic Technology cable 4.0mm <sup>2</sup> , 285mm
Connector	MC4 Compatible

### TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	45±2°C
Temperature Coefficient of P <sub>MAX</sub>	-0.36%/°C
Temperature Coefficient of V <sub>OC</sub>	-0.28%/°C
Temperature Coefficient of I <sub>SC</sub>	+0.048%/°C

### MAXIMUM RATINGS

Operational Temperature	-40 to +85°C
Maximum System Voltage	1000V DC (IEC)
Max Series Fuse Rating	20A
Mechanical Load	5400pa
Wind Load	2400pa

### PACKING CONFIGURATION

Modules per box: 26 pieces
Modules per 40' container: 638 pieces

### WARRANTY

12 year workmanship warranty
30 year linear performance warranty
(Please refer to product warranty for details)

### INSURANCE

Product liability insurance with CHUBB Group
Product performance(E&O)insurance CHUBB Group

## Powitt Solar Co Ltd

www.powitt.com  
 info@powitt.com  
 Tel: +86 519 8899 2132

### Wuxi:

No.8-1, Yan Feng Road, Huishan, Wuxi, Jiangsu, China 214100

### Changzhou :

Room 306, Building 5, Boji Park, Changzhou, Jiangsu, China 213000

### Sri Lanka:

208 Stanley Thilakratne Mawatha, Jubilee Post, Nugegoda, Sri Lanka