

**ABOUT PHONO SOLAR**

Phono Solar Technology Co., Ltd. is one of the world's leading renewable energy product manufacturers and a well-trusted provider. The Phono Solar brand has become synonymous with high performing, top quality photovoltaic panels that are ideal for use in large scale power plants, commercial and residential installations.

The Enphase Microinverter is a compact unit that connects directly to Phono Solar PV modules, converting DC to AC power at source. The microinverter also sends vital health and performance information to the Enphase Envoy communications gateway.



**Diamond Series**

**Onyx Series**

**HIGH PERFORMANCE AC SOLAR MODULE**

**245W-265W**

**PRODUCTIVE**

- High efficiency solar module integrated with an Enphase microinverter, the world's most efficient microinverter
- High output due to excellent performance in weak-light conditions
- Each module is individually optimized
- Eliminates module mismatch loss
- Shading affects only the shaded panel, not the entire system
- M215: Peak efficiency 96.3%, CEC efficiency 96%, Euro efficiency 95.4%
- M250: Peak efficiency 96.3%, CEC efficiency 96%, Euro efficiency 96.5%

**INTELLIGENT**

- Performance monitoring on every module
- Issues with the array are automatically identified, diagnosed and resolved by remote trouble shooting
- Quick and simple design, installation and management
- Provides solar system performance information, analytics and automated alerts

**SAFE**

- No high voltage DC wiring
- Fire Prevention – no risk of DC arc faults



**PV MODULE COMPLIANCE**  
**MICRO INVERTER COMPLIANCE**  
VDE-0126-1-1, DK5940, C10/11, EN62109-2, G83/1-1, UL1741



## MECHANICAL CHARACTERISTICS

<b>Solar Cells</b>	Polycrystalline 156mm x 156mm square, 6 × 10 pieces in series
<b>Dimension</b>	Length: 1640mm (64.6 inch)
	Width: 992mm (39.1 inch)
	Height: 40mm (1.6 inch) / 75mm (2.95inch)
<b>Weight</b>	21.6kg(47.6lbs)
<b>Front Glass</b>	3.2mm toughened glass
<b>Frame</b>	Anodized aluminium alloy
<b>Cable</b>	4mm <sup>2</sup> (IEC) / 12AWG(UL), 900mm
<b>Junction Box</b>	IP 67 rated

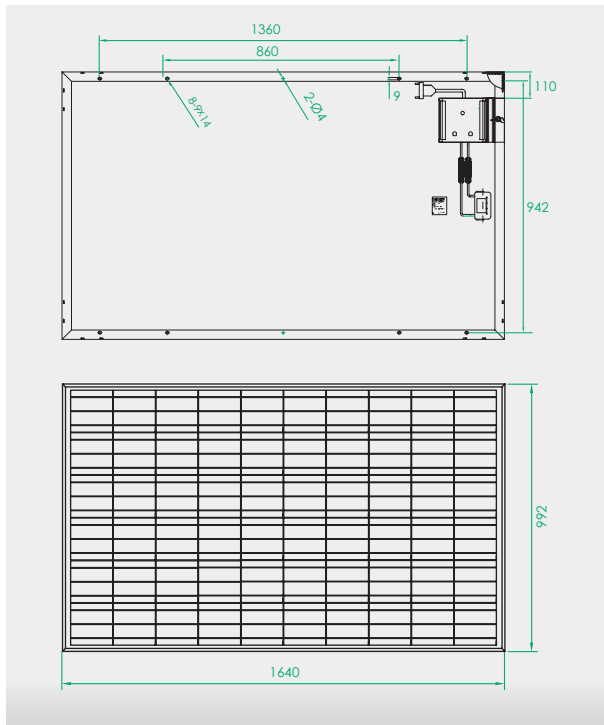
## ABSOLUTE MAXIMUM RATING

Parameter	Values
Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Surface Maximum Load Capacity	Up to 5400Pa
Maximum Series Fuse Rating	15A
IEC Application Class (IEC61730)	A
Fire Rating (UL 1703)	C
Maximum System Voltage	DC 1000V(IEC)
	DC 600V(UL)/1000V(ETL)

## ELECTRICAL TYPICAL VALUES<sup>1,2</sup>

Model	Rated Power (P <sub>mpp</sub> )	Rated Current (I <sub>mpp</sub> )	Rated Voltage (V <sub>mpp</sub> )	Short Circuit Current (I <sub>sc</sub> )	Open Circuit Voltage (V <sub>oc</sub> )	Module Efficiency (%)
PS245P-20/U	245W	8.18A	30.0V	8.60A	37.7V	15.06
PS250P-20/U	250W	8.30A	30.2V	8.70A	37.8V	15.37
PS255P-20/U	255W	8.42A	30.4V	8.80A	37.9V	15.67
PS260P-20/U	260W	8.53A	30.6V	8.90A	38.0V	15.98
PS265P-20/U	265W	8.61A	30.8V	9.00A	38.1V	16.29

## DIMENSIONS



## AC Electrical Specification

Maximum AC output power (-40 to 65°C)	215W	250W
Nominal output current	0.93A	1A
Nominal voltage	230V	240V
Nominal frequency	50.0Hz	60.0Hz
Power Factor	>0.95	>0.95
Maximum units per 20A branch circuit	17 (Ph + N); 27 (3Ph + N)	16 (Ph + N); 24 (3Ph + N)
Maximum output fault current	1.05 Arms, over 3 cycles; 25.2 Apeak, 1.74ms duration	850 mArms for 6 cycles
EN 50530 (EU) efficiency	95.40%	96.50%
Static MPPT efficiency (weighted, reference EN50530)	99.60%	99.40%
Communication	Power line	Power line
Night time power consumption	50mW	65mW
Operating temperature range (internal)	-40°C to + 85°C	-40°C to + 85°C
Cooling	Natural convection - No fans	Natural convection - No fans
Enclosure environmental rating	Outdoor – IP67	Outdoor – NEMA 6

## WEAK LIGHT PERFORMANCE

Intensity [W/m <sup>2</sup> ]	I <sub>mpp</sub>	V <sub>mpp</sub>
1000	1	1
800	0.8	0.996
600	0.6	0.99
400	0.4	0.983
200	0.2	0.952
100	0.1	0.921

## WARRANTY

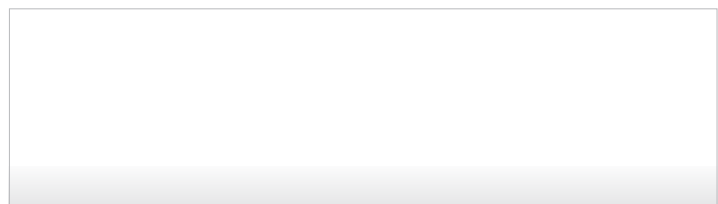
MODULE-25 YEARS  
INVERTER-25 YEARS (UK 20 YEARS)

Note: This publication summarizes product warranty and specifications, which are subjected to change without notice. Additional information can be found on website: [www.phonosolar.com](http://www.phonosolar.com)

1. Defined as standard deviation of thousands measurements. Absolute power values depend on the measuring system. They can differ by +/-5% from one measuring system to another.
2. Measurement conditions under irradiance level of Standard Test Conditions(STC): 1000W/m<sup>2</sup>, Air mass 1.5 Spectrum, cell temperature of 25°C.

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## PARTNER INFORMATION



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**Diamond Series**

**Onyx Series**

## HIGH PERFORMANCE AC SOLAR MODULE

# 250W-270W

### PRODUCTIVE

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- Each module is individually optimized
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- Shading affects only the shaded panel, not the entire system
- M215: Peak efficiency 96.3%, CEC efficiency 96%, Euro efficiency 95.4%
- M250: Peak efficiency 96.3%, CEC efficiency 96%, Euro efficiency 96.5%

### INTELLIGENT

- Performance monitoring on every module
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### SAFE

- No high voltage DC wiring
- Fire Prevention – no risk of DC arc faults



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 MICRO INVERTER COMPLIANCE  
 VDE-0126-1-1, DK5940, C10/11, EN62109-2, G83/1-1, UL1741



## MECHANICAL CHARACTERISTICS

<b>Solar Cells</b>	Monocrystalline 156mm x 156mm square, 6 x 10 pieces in series
<b>Dimension</b>	Length: 1640mm (64.6 inch)
	Width: 992mm (39.1 inch)
	Height: 40mm (1.6 inch) / 75mm (2.95inch)
<b>Weight</b>	21.6kg(47.6lbs)
<b>Front Glass</b>	3.2mm toughened glass
<b>Frame</b>	Anodized aluminium alloy
<b>Cable</b>	4mm <sup>2</sup> (IEC) / 12AWG(UL), 900mm
<b>Junction Box</b>	IP 67 rated

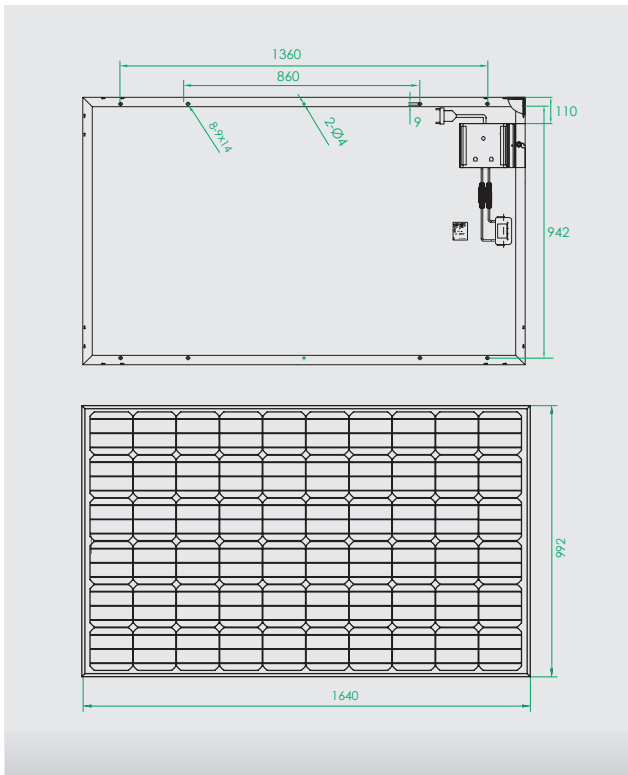
## ABSOLUTE MAXIMUM RATING

Parameter	Values
Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Surface Maximum Load Capacity	Up to 5400Pa
Maximum Series Fuse Rating	15A
IEC Application Class (IEC61730)	A
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PS250M-20/U	250W	8.24A	30.4V	8.65A	37.9V	15.37
PS255M-20/U	255W	8.35A	30.6V	8.75A	38.0V	15.67
PS260M-20/U	260W	8.46A	30.8V	8.85A	38.1V	15.98
PS265M-20/U	265W	8.55A	31.0V	8.95A	38.2V	16.29
PS270M-20/U	270W	8.65A	31.2V	9.05A	38.3V	16.60

## DIMENSIONS



## AC Electrical Specification

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<b>Nominal output current</b>	0.93A	1A
<b>Nominal voltage</b>	230V	240V
<b>Nominal frequency</b>	50.0Hz	60.0Hz
<b>Power Factor</b>	>0.95	>0.95
<b>Maximum units per 20A branch circuit</b>	17 (Ph + N); 27 (3Ph + N)	16 (Ph + N); 24 (3Ph + N)
<b>Maximum output fault current</b>	1.05 Arms, over 3 cycles; 25.2 Apeak, 1.74ms duration	850 mArms for 6 cycles
<b>EN 50530 (EU) efficiency</b>	95.40%	96.50%
<b>Static MPPT efficiency (weighted, reference EN50530)</b>	99.60%	99.40%
<b>Communication</b>	Power line	Power line
<b>Night time power consumption</b>	50mW	65 mW max
<b>Operating temperature range (internal)</b>	-40°C to + 85°C	-40°C to + 85°C
<b>Cooling</b>	Natural convection - No fans	Natural convection - No fans
<b>Enclosure environmental rating</b>	Outdoor – IP67	Outdoor – NEMA 6

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