

NPA180S-12H

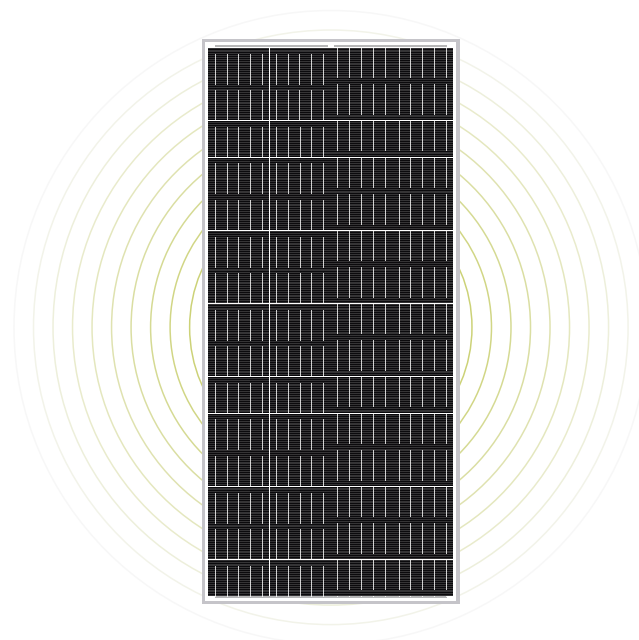
Monocrystalline Module



ELECTRICAL CHARACTERISTICS

| | |
|---|-------------------|
| Type | NPA180S-12H |
| Power Output(W) | 180W |
| Voltage MPP Vmp(V) | 16.77V |
| Current MPP Imp(A) | 11.20A |
| Voltage Open Circuit Voc(V) | 19.84V |
| Short Circuit Current Isc(A) | 11.75A |
| Temperature Coefficient Of Voc | -(80±10)mV/°C |
| Temperature Coefficient Of Isc | (0.065±0.015)%/°C |
| Temperature Coefficient Of Power | -(0.5±0.05)%/°C |
| NOCT (Air 20°C; Sun 0.8kW/m² wind 1m/s) | 47±2°C |

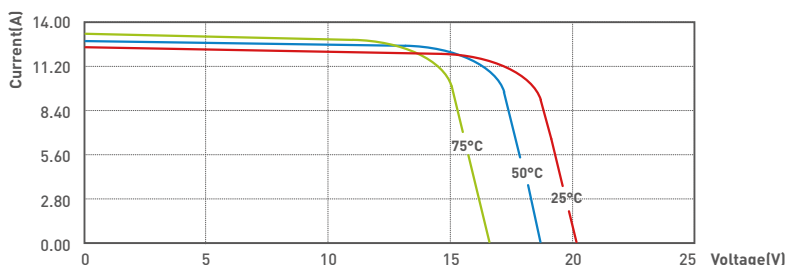
STC: 1000W/m² Irradiance, 25°C module temperature, AM1.5g spectrum according to EN 60904-3



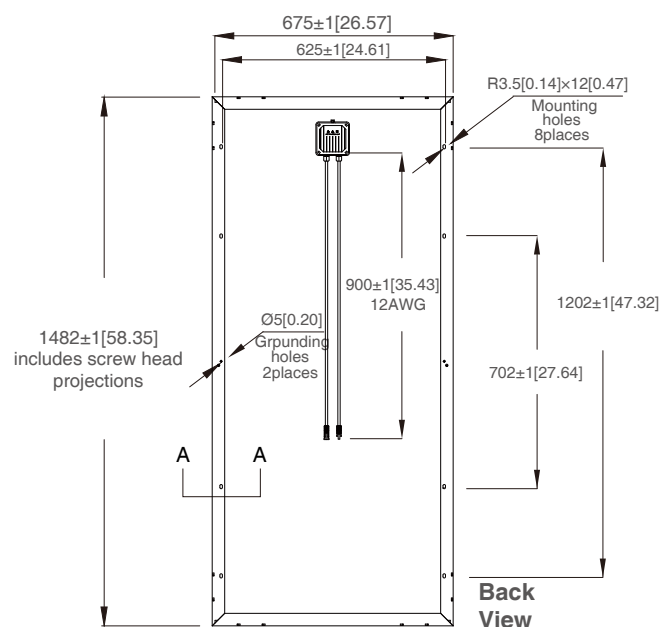
MECHANICAL CHARACTERISTICS

| | |
|-----------------------------|---|
| Cells | Monocrystalline Silicon |
| Solar Cells Grade | Class A High Efficiency |
| Module Dimension(mm/in.) | 1482[58.35]x675[26.57]x35[1.38] |
| Weight(kg/lbs) | 11.5[25.35] |
| Packing Information(mm/in.) | 1535[60.43]x727[28.62]x63[2.48]/(1pc/ctn) |

I-V CURVES (Irradiance: AM1.5, 1km/m²)



*Specifications subject to technical changes and tests.
NEWPOWA reserves the right of final interpretation.



Dimensions in brackets are in inches.
Un-bracketed dimensions are in millimeters.
Unit: mm[in.]



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LIMITED PRODUCT WARRANTY

Newpowa warrants its module's and product's performance starting from the date of sale to the original purchaser (whether it be directly to purchaser OR the customer ("Customer) doing the initial installation of the modules). This date is deemed "Warranty Start Date".

This warranty applies to the original purchaser and is subject to the following terms and conditions:

What Is Not Covered by This Warranty: This warranty does not extend to or cover:

1. Any defect due to the negligence of the user; failure to install, operate or maintain the product properly; unreasonable use; accidents; alteration of the product or parts; use of unauthorized or non-standardized parts; acts of God; theft; vandalism; electrical malfunctions (i.e., resulting from power surges, shorted or overloaded circuits, etc.), use of any power source other than supplied by manufacturer; repair by anyone other than an authorized Newpowa America Inc. representative; or damage resulting from improper packing or mishandling by a shipper.

2. Normal wear and tear of parts

Who Is Covered: The original purchaser / customer

1. Warranted Products of Newpowa

| Product Types | Warranty Period |
|------------------------------------|--|
| Rigid Solar panels (mono and Poly) | 2 years materials and parts workmanship 10 years 90% power output warranty 25 years 80% power output warranty |
| Semi-flexible solar panels | 1 year material and parts workmanship 5 years 80% power output warranty |
| Charge controllers (PWM and MPPT) | 2 years materials and parts workmanship |
| Mounting Brackets | 1 year material and parts workmanship |
| Power Banks/Solar Generators | 1 year material and parts workmanship (including Lithium Ion batteries within unit) |
| Solar Powered Lights | 1 year material and parts workmanship |
| Lightweight Portable/folding units | 5 year materials and parts workmanship |
| Sunwanderer Portable Units | <u>Solar panels within unit:</u> 2 years materials and parts workmanship 10 years 80% power output warranty 25 years 90% power output warranty <u>Charge controller within unit:</u> 2 years materials and parts workmanship <u>All other parts in unit:</u> 1 year material and parts workmanship |

2. Limited Product Warranty for Solar Modules

Newpowa warrants that the modules together with the factory-assembled DC connectors and cables are free from defects, if any, in materials and workmanship under normal application, use, installation and service conditions for a period of 24 months from the Warranty Start Date (for rigid modules) and 12 months from the Warranty Start Date (for semi-flexible modules). If modules malfunction or become inoperative due to defect in material or workmanship during the above period from the Warranty Start Date, and proved by an independent testing agency that will be selected and confirmed by Newpowa and Customer in advance, Newpowa will, at its sole option, either repair or replace the malfunctioning or inoperative module(s). The repair or replacement remedy shall be the sole and exclusive remedy provided under this Limited Product Warranty and shall not extend beyond the period set forth herein. This Limited Product Warranty does not warrant a specific power output, which shall be exclusively covered under the Section 3 hereinafter (“Limited Peak Power Warranty”).

3. Limited Peak Power Warranty for Solar Modules

Provided that, within a period of 10 years from the Warranty Start Date for rigid panels, any module exhibits a power output less than 90% of the nominal power as documented in Newpowa’s product datasheet, and such loss in power is determined by Newpowa, at its sole discretion, to be due to the modules’ defects in material or workmanship attributed to Newpowa (and so proven by an independent testing agency who will be selected and confirmed by Newpowa and Customer in advance), Newpowa will, at its sole option and discretion, either (1) make up such loss in power by providing to Customer additional Modules; or (2) repair or replace the defective Modules including free shipping to the place supplied by Newpowa.

Provided that, within a period of 25 years from the Warranty Start Date for rigid panels and 5 years for semi-flexible panels, any module exhibits a power output less than 80% of the nominal power as documented in Newpowa’s product datasheet, and such loss in power is determined by Newpowa, at its sole discretion, to be due to the modules’ defects in material or workmanship attributed to Newpowa (and so proven by an independent testing agency who will be selected and confirmed by Newpowa and Customer in advance), Newpowa will, at its sole option and discretion, either (1) make up such loss in power by providing to the end-user Customer additional modules; or (2) repair or replace the defective modules including free shipping to the place applied by Newpowa.

The remedies set forth in Section 3 are the sole and exclusive remedies provided under the **Limited Peak Power Warranty**.

4. Exclusions and Limitations

(a) Warranty claims, in any event, shall be filed in writing to Newpowa or its authorized distributors within the applicable warranty period and not beyond the last day of the applicable period of time as stated above.

(b) The Limited Product Warranty and Limited Peak Power Warranty shall not apply to the

Modules which have been subject to:

- Misuse, abuse, neglect, vandalism or accident;
- Alteration, improper installation or application;
- Repair or modifications that do not strictly follow the manufacturer's instructions;
- Non-observance of Newpowa's maintenance instructions;
- Power failure, electrical spikes or surges, lightning, flood, fire, accidental breakage or other events outside Newpowa's control.

(c) The Limited Product Warranty and Limited Peak Power Warranty do not cover any costs associated with installation, removal or re-installation of the PV-modules and (except as explicitly set forth in the last paragraph of the Section 5) customs clearance or any other costs for return of the Modules.

(d) Warranty claims will not be honored if the model number or serial number of Newpowa modules have been altered, removed or made illegible without written authorization from Newpowa.

5. Limitation of Warranty Scope

This Warranty as set forth herein is expressly in lieu of and excludes all other express or implied warranties, including but not limited to warranties of merchantability and of fitness for particular purpose, use, or application, and all other obligations or liabilities on the part of Newpowa, unless such other obligations or liabilities are expressly agreed to in writing signed and approved by Newpowa. Newpowa shall have no responsibility or liability whatsoever for damage or injury to persons or property, or for other loss or injury resulting from any cause whatsoever arising out of or related to the modules, including, without limitation, any defects in the Modules or from use or installation. Under no circumstances shall Newpowa be liable for incidental, consequential or special damages, howsoever caused. Loss of use, loss of profits, loss of production, and loss of revenues are specifically and without limitation excluded. Newpowa's aggregate liability, if any, in damages or otherwise, shall not exceed the invoice value as paid by the Customer, for the single unit of Modules.

6. Obtaining Warranty Performance

If the Customer has a justified claim covered by this Warranty, an immediate notification directly to Newpowa shall be made by mailing a registered letter in writing to the address of Newpowa listed hereunder, or, sending an email letter to the email account of Newpowa listed hereunder. Together with the notification, the Customer should enclose all evidence of the claim with the corresponding serial number of the Modules and the date on which the Modules have been purchased. An invoice with clear indication of the purchase date, purchase price, model number, stamp or signature of Newpowa or its distributors should also be submitted as part of the evidence.

If the Modules will be returned to Newpowa for inspection, repair or replacement, Newpowa

will give the Customer a Return Merchandise Authorization (RMA). RMA numbers must be listed and visible in the shipping labels and any documentation included with the returned modules. Newpowa will not accept a return of any modules without an RMA. In connection with both the Limited Product Warranty and Limited Peak Power Warranty, Newpowa shall reimburse customer for reasonable, customary and documented transportation charges for both the return of the Modules and reshipment of any repaired or replaced Modules, only if this cost has been previously authorized by Newpowa's Customer Service Department.

7. Transferability

This warranty is extended to the original end-user purchaser and is non-transferable to any subsequent owner of the product.

8. Severability

If a part, provision or clause of this Warranty, or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such holding shall not affect and shall leave all other parts, provisions, clauses or applications of this Warranty, and to this end such other parts, provisions, clauses or applications of this Warranty shall be treated as severable.

9. Disputes

In case of any discrepancy in a warranty claim, a first-class international testing institute, (such as Fraunhofer ISE, TÜV Rheinland or Arizona State University), shall be enlisted to judge the claim finally. All fees and expenses shall be born by the losing party, unless otherwise awarded. The final explanation right shall be borne by Newpowa.

10. Various

The repair or replacement of the Modules or the supply of additional Modules does not lead to a new commencement of warranty terms, nor shall the original terms of this Warranty be extended. Any returned modules shall become the property of Newpowa. Newpowa shall at its own options to deliver another type of PV Modules (different in size, color, shape, or power), either a new brand or the original one, in case that Newpowa has discontinued producing the module in question at the time of the claim.

11. Force Majeure

Newpowa shall not be in any way be responsible or liable to the Customer or any third-party arising out of any non-performance or delay in performance of any terms and conditions of sale, including this Warranty, due to fire, flood, blizzard, hurricane, thunder, acts of God, changes of public policies, terrorism, war, riots, strikes, unavailability of suitable and sufficient labor or materials and other events which are out of control of Newpowa.

NOTE:

“Peak Power” is the power in watt peak that a PV-module generates in its maximum power

point under STC condition. 'STC' are as follows: (a) light spectrum of AM 1.5, (b) an irradiation of 1,000W/m² and (c) a cell temperature of 25 degree Centigrade at right angle irradiation. The measurements are carried out in accordance with IEC61215 as tested at the junction box terminals per the calibration and testing standards of Newpowa valid at the date of manufacture of the PV-Modules. Newpowa's calibration standards shall be in compliance with the standards applied by international institutions accredited for this purpose.

DISCLAIMER OF WARRANTY

THE LIMITED WARRANTIES SET FORTH HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION, AND ALL OTHER OBLIGATIONS ON THE PART OF NEWPOWA UNLESS SUCH OTHER WARRANTIES AND OBLIGATIONS ARE AGREED TO IN WRITING BY NEWPOWA. SOME JURISDICTIONS LIMIT OR DO NOT PERMIT DISCLAIMERS OF WARRANTY, SO THIS PROVISION MAY NOT APPLY TO THE PURCHASER IN SUCH JURISDICTIONS.

Warranty is extended to the original purchaser and is not transferrable.

This warranty gives you specific rights. These rights and others vary from state to state.

NEWPOWA

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