



## Suitable for Various Solar Systems



### Rural Electrification:

- Pico Systems
- Solar Home Systems (SHS)
- PAYG Systems
- Mini-Grid Systems
- Education Kits
- Solar Pumping Systems
- ...Your Innovative Project!



### Innovative Applications:

- Parking Meters
- Parking Stations
- Street Lights
- Camping Systems
- Education Kits
- Outdoor Applications
- Marine Applications
- ...Your Innovative Project!



## About OPES Solutions

Since 2012 OPES Solutions is the leading off-grid solar modules manufacturer with offices in Germany, Hong Kong and China. Our own production facility in Changzhou opened its doors in 2015 and keeps growing since then.

We have already produced and shipped more than three million solar modules for applications in Africa, Asia and Europe. Contact us, if you want to power an electrical device or battery system with solar energy.



\* OPES Solutions Changzhou

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## The Off-Grid Solar Module Company

OPES Solutions manufacturers and designs solar modules for a variety of applications. This includes Solar Pico, Solar Home and PAYG Systems in the field of rural electrification as well as customized modules for parking meters, street lights, marine or outdoor applications.

We meet all requirements for flexibility, efficiency, appearance, connectivity, and design of your individual solar module.

Our core competencies are know-how in material science and design capabilities, supported by our high-end automated production line, unique in the world for its flexibility to produce solar modules ranging from 0.3Wp to 270Wp.

[www.opes-solutions.com](http://www.opes-solutions.com)

# WHY CHOOSE OPES?

## Knowledge

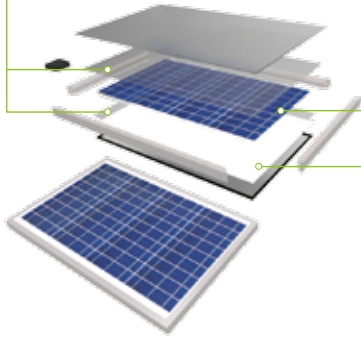
### Durable Material Selection

#### Quality Solar Cell

- Continuous electroluminescence and flash tests guarantee excellent electrical performance

#### Reliable Encapsulation Foil

- Only high quality EVA and continuous cross-linking and UV tests to assure a lamination for a long lifetime
- Supported by our warranty



#### Durable Backsheet

- For application solar modules there is no industry standard, therefore often the less durable PET is used in the market
- We use only Tedlar or Kynar backsheets which guarantees long lifetime.
- Our UV tests ensure, that there is no yellowing effect of the laminate over time

## Design

To accelerate innovation with material, we are a cooperation partner of Fraunhofer CSP Institute in Germany. Currently we develop a modular ultra-lightweight solar module.

## Quality



#### Quality Standards

We want to define quality standards in the non-standard off-grid solar industry. With a high degree of process automation, all application solar modules are produced at consistent reproducible quality and with increasing high throughput.

#### Quality Control

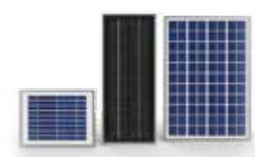
We implemented a quality control system according to ISO 9001 in every step of production: EL tests of solar cells before and after the cutting exclude failures in the material and assure superior performance of the modules in low light conditions. In our own lab, we do continuous cross-linking tests as well as UV tests on material and products.

#### Warranty and Certification

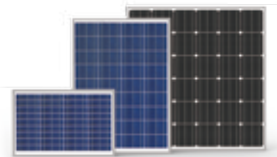
Our solar modules are TÜV certified. IEC 61215 and IEC 61370 are covered for our complete standard module range. For our standard products, we grant a power output / performance warranty of 90% for 10 years and 80% for 20 years.



O-Eazy



O-Pico



O-Home



O-Design

O-Flex / O-Mini /  
O-Lite / O-Lite Plus

## Flexibility



#### Prototyping

Prototype production and testing for our clients.

#### Serial Production

As soon as the solar module is optimized, we can ramp up the serial production for the customer in very short time.

#### Capacity

Our own production site has a 5,000 sqm factory floor. We constantly add new machinery. The Hutang Science and Technology Park provides great expansion potential for us.

## Manufacturing Excellence

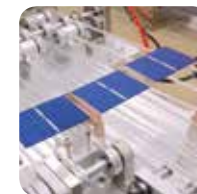


#### Innovative Automation Process

From cell cutting to lamination, our innovative automation process can efficiently increase capacity, quality and productivity.

#### Flexible Production Line

The flexibility of our proprietary automation lines supports small series and high volume of various application solar modules.



#### Quality Oriented Production

Quality is our highest priority – supported by a high degree of automation and our state-of-the-art labs including long-term UV and damp-heat testing equipment.