



# Panasonic

## High Performance

**100%**

**0.005%**

**15 years**



Over **40** years of experience with all roof types

# HIGHER EFFICIENCY

Photovoltaic modules HIT® are extremely compact in appearance – just like this brochure. However, their true size is revealed when you look inside. That is where advanced heterojunction technology delivers maximum efficiency and reliability. Panasonic HIT® is a solar technology market leader, with a significantly higher energy yield per unit of surface area compared with our competitors' conventional modules.

## HIT® works harder for you ...

Unlike conventional cells, solar cells used in HIT® convert a higher percentage of the sunlight into electrical energy, in other words the conversion efficiency is higher. The reason is that HIT®, unlike conventional crystalline silicon cells, consists of a combination of monocrystalline and amorphous silicon layers. As a result, fewer electrons are lost on the silicon layers during energy production. That makes them more efficient.

A cell conversion efficiency of

# 25.6%

brought Panasonic the efficiency world record in 2014.

(at R&D level)

A module conversion efficiency of

# 19.7%

makes Panasonic HIT® a market leader.

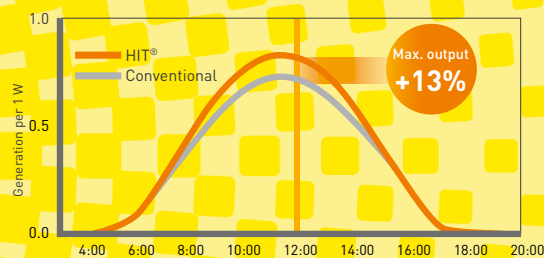
(HIT® N330 module)

# HIGHER EFFICIENCY

... but never takes a siesta.

In hot temperatures, especially around midday, the performance of conventional modules quickly suffers. The high temperature stability of modules HIT® keeps them working flat out long after the others have decided to rest in the shade.

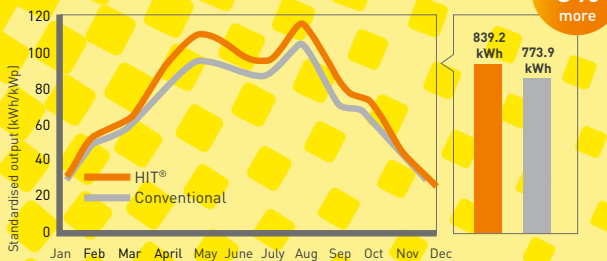
**+13%**



Total yield with a peak module temperature of 85° C, compared with a conventional crystalline module.

(8 July 2013, Kaizuka City)

**+8%**



Total yield over a year:

839.2 kWh (N240 module)

773.9 kWh (conventional module)

(Nagano 2012 / orientation west-southwest, inclination 20°)

# PLUS GREATER RELIABILITY

Reliability cannot be faked. Reliability has to be proven. And that takes time. No manufacturer has spent more time than Panasonic on solar technology research and development. Panasonic is a pioneer and technology leader with

## 40 YEARS

of expertise and experience, starting in 1975 with the development and early commercial production of amorphous solar cells for industrial and domestic use. Production facilities in Japan were later joined by sites in the US and Malaysia.

But there is a much longer pedigree of expertise in developing innovative technologies. Panasonic products, systems and services have been improving your quality of life since 1918. All under the company slogan: A Better Life, A Better World.

That makes Panasonic HIT® the brand with the largest number of meaningful long-term studies in solar technologies. And they speak for themselves.

## Panasonic in detail

Guaranteed high quality with

# 100%

original Panasonic cells

# 15 YEAR

product guarantee

# 1 BILLION

cells produced



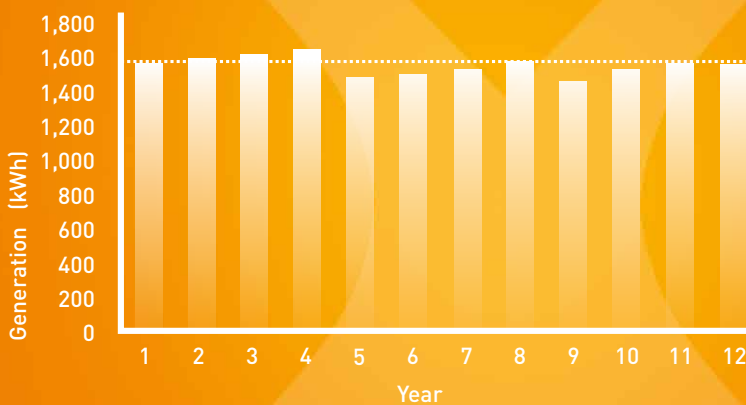
# PLUS GREATER RELIABILITY

TÜV Sequential Long-term Tests  
by TÜV Rheinland.

No measurable loss of output after

## 12 YEARS

(test period 2004 to 2016 in Gloucestershire, UK)



## The marathon module

Energy output after 25 years in service:  
still

## 80%

guaranteed

Failure rate after more than 10 years in service in Europe:  
less than

## 0.005%

(Date: January 2016)

# = MORE ENERGY



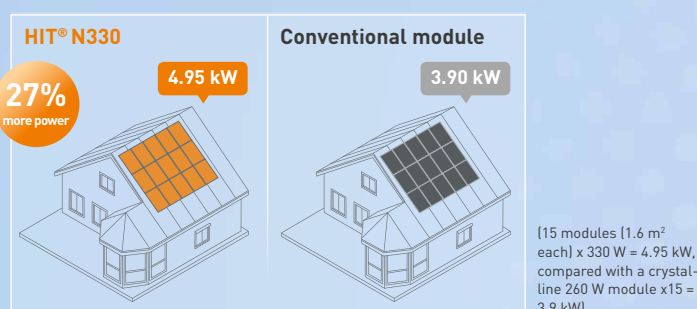
## More power on any roof

You can see it all here. The energy yield of photovoltaic modules HIT® is high. So high that you'd have a hard time finding a higher return on your investment elsewhere. And the best thing is that your profit increases the longer Panasonic HIT® is in service. And that is a long, long time thanks to its reliability and efficiency.

## Little in. Lots out.

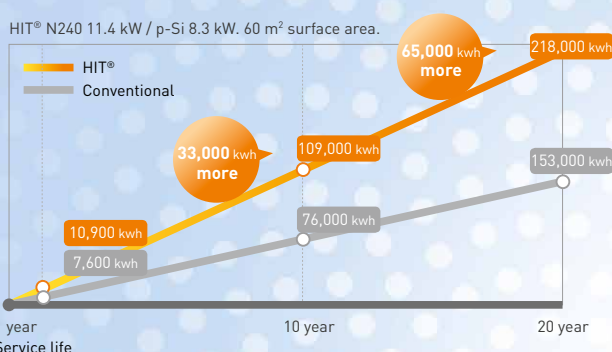
**+27%** more output for the same roof surface area

With **-24%** lower BoS (balance of system) costs



Increasing energy yield compared with conventional cells:

In 20 years **+42.48%**



Photovoltaic modules HIT®:

## Turn your home into a powerhouse.



### N245/N240 Slim

This module is very versatile to install and is particularly suited to narrow, awkward roofs. This guarantees maximum energy output per unit of surface area.



### N285 Compact

The low height of this module increases the energy yield of your roof, especially when installed in vertical position. The N285 can also extract more energy from flat roofs than conventional modules due to the smaller minimum spacing between rows of modules.

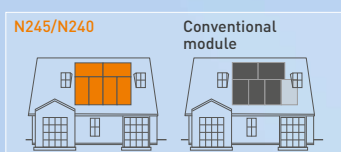


### N330/N325 Powerful

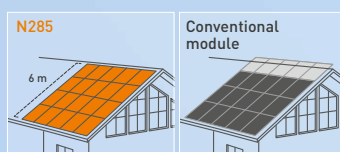
19.7% module efficiency means that these modules are among the most efficient on the market. Installation costs are lower too, and the BoS (balance of system) costs can be 24% less than with conventional modules.

Find out here how much solar energy you can produce on your roof with Panasonic HIT® and where to find your local Panasonic HIT® dealer:

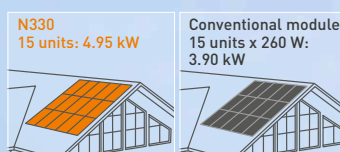
Go to [panasonic.ezzing.com](http://panasonic.ezzing.com)



Output	245 W/240 W
Dimensions	798 x 1580 mm
Surface area	1.26 m²
Weight	15 kg
Cell efficiency	22.0/21.6%
Module efficiency	19.4/19.0%



Output	285 W
Dimensions	1053 x 1463 mm
Surface area	1.54 m²
Weight	18 kg
Cell efficiency	20.9%
Module efficiency	18.5%



Output	330 W/325 W
Dimensions	1053 x 1590 mm
Surface area	1.67 m²
Weight	19 kg
Cell efficiency	22.2/21.9%
Module efficiency	19.7/19.4%

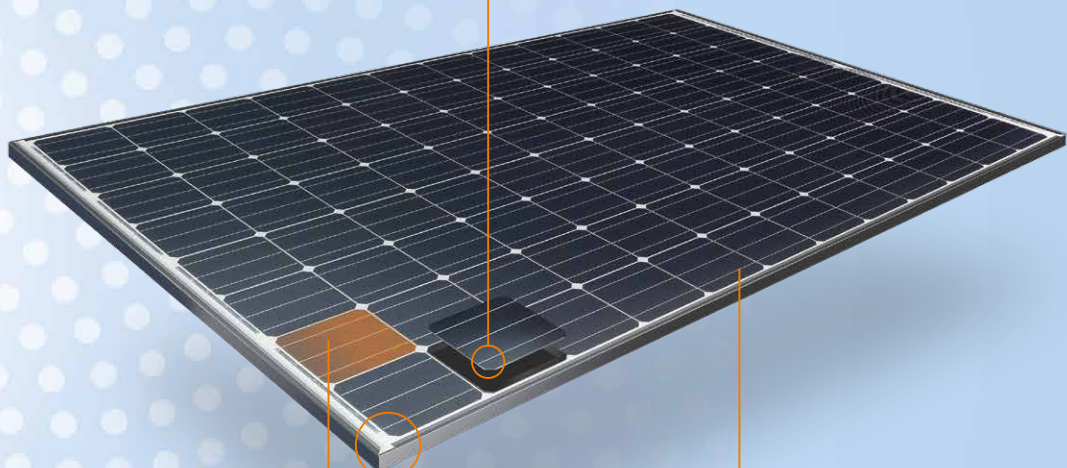
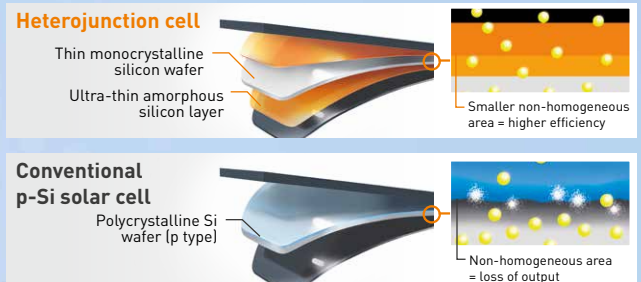


## The smartest cells since brain cells

Panasonic HIT® has some clever technology to thank for its above-average efficiency and reliability, ensuring that as much as possible of the sun's energy reaching the module is converted into usable electrical energy.

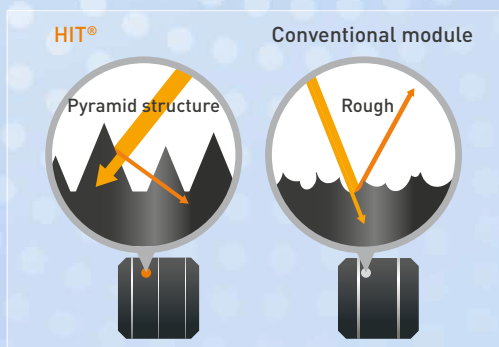
Photovoltaic modules HIT® are based on heterojunction technology, the leading technology on the market. It allows solar modules to be produced that are more efficient than ever before. Unlike conventional cells, Panasonic HIT® has an amorphous layer which significantly reduces the electrons lost on the surface. Losses during energy production are much lower.

### Heterojunction technology



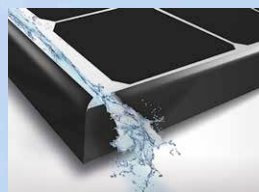
### Innovative surface treatment

Compared with the rough surface of conventional solar panels, Panasonic HIT® has a pyramid structure that directs light inside the cells instead of reflecting it. And more light can only mean more energy.



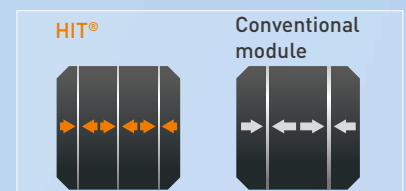
### Drainage in the frame

Constant drainage, no moisture in the module, no drying borders, self-cleaning even with a small inclination.



### Three busbars instead of two

The metal busbars carry the produced energy out of the module. With three busbars, the energy has a shorter distance to travel. And less is lost.



### Environment

It goes without saying that all photovoltaic module HIT® consist of non-toxic components.

#### Recognised excellence

The Panasonic research team and development team is internationally recognised for its ground-breaking work to improve cell conversion efficiency.



IEC61215  
IEC61730-1  
IEC61730-2



# Sustainable and smart: Fujisawa Sustainable Smart Town in Japan



Working with Fujisawa City and 11 partners, Panasonic is building the ultimate vision of modern living. It is a community of 1,000 households based on the latest technology working in harmony with the lifestyle habits of residents and with the environment.

To find out more go to

**[fujisawasst.com/EN/project](http://fujisawasst.com/EN/project)**



Dealer's stamp

**Panasonic Eco Solutions Europe**  
**Panasonic Electric Works Europe AG**  
Robert-Koch-Straße 100  
85521 Ottobrunn · Germany  
Tel. +49 89 45354-1000 · Fax +49 89 45354-2111  
[info.solar@eu.panasonic.com](mailto:info.solar@eu.panasonic.com)

**[www.eu-solar.panasonic.net](http://www.eu-solar.panasonic.net)**