



SHARP Energy Solutions

Your Solar Partner for Life

Be ahead of your competition with advanced products.

sharp.eu/solar | [@SHARPSolarEMEA](https://twitter.com/SHARPSolarEMEA)

SHARP
Be Original.

Leverage the industry's longest-standing experience

Long-term partnerships are built on trust, strength, and reliability. When our competitors started entering the market in the late 1990s, SHARP already had about 40 years of experience with a wide range of solar panel applications. We are proud of this long heritage and the many successful projects made possible by SHARP solar panels around the globe.

As a company that has been around for over a century, we have demonstrated to generations that we will be around long enough to honor our guarantees.

Secure your customers investment

As part of a corporation whose diverse portfolio includes a broad range of consumer electronics, we rely on a stable financial backbone for our solar PV business, confirmed by Bloomberg's Tier 1 listing. In contrast to pure solar manufacturers, we can withstand the fluctuations of the highly volatile solar markets. For our partners and customers, this means that we will be around and by your side for a long time.

64
YEARS
Solar Expertise

1
TIER
Bloomberg



111th ANNIVERSARY

We are continuously intensifying our CSR efforts

Learn about our corporate sustainability & CSR initiatives.
www.sharp.eu/sustainability



Benefit from a well known consumer brand

111 years of company history and over six decades of PV experience



1912
Foundation
of SHARP

1953
Mass prod
of TVs

1959
Dev of solar
cells begins

1970
Start producing
space-use PV cells

1976
First calculators
with solar cells

2000
World leading
PV manufacturer

2018
48 cell:
Back-Contact: 20%

2020
Half-cut cell
introduction

2022
Bifacial modules
introduction

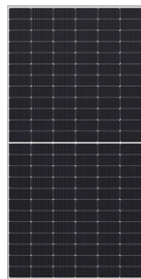
PV competitors
starting from 1997

Open up every market segment to generate new business

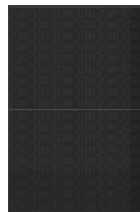
Half-cut cell PERC and N-type TOPCon line-up



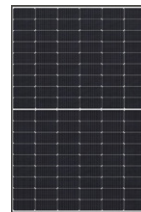
**Bifacial
Project Solution**



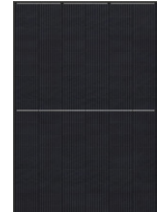
**Project
Solution**



**Design
Solution**



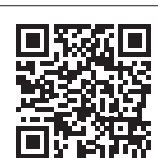
**High
Performer**



**Design
Solution**

Power	570 W / 550 W	550 W	420 W	415 W	410 W
Model	NB-JD570* / NB-JD550	NU-JD550	NU-JC420B*	NU-JC415 / NU-JC415B (silver or black frame)	NU-JC410BBLACK
Half-cells	144	144	108	108	108
Busbars (round ribbons)	16 BB / 10 BB	10 BB	16 BB	10 BB	10 BB
Wafer type	M10	M10	M10	M10	M10
Module efficiency	22.07% / 21.3%	21.3%	21.51%	21.25%	21.0%
Bifaciality	80(±5)% / 70(±5)%	-	-	-	-
System voltage	1,500 V	1,500 V	1,000 V	1,000 V	1,000 V
Size	2,278 × 1,134 × 30 mm	2,278 × 1,134 × 35 mm	1,722 × 1,134 × 30 mm		
Weight	32.5 kg	27.5 kg	20.7 kg		
Pallet	36 pcs	31 pcs	36 pcs		
Truck (40 feet)	720 pcs	620 pcs	936 pcs		

*coming soon



Go Online!

Select a module and see the datasheets and certificates
www.sharp.eu/solar-panels

Achieve ROIs quickly

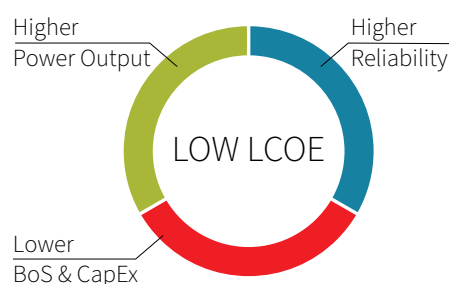
Highest-yielding half-cell PV panels

The main benefits of the half-cell modules for users are a 2-3% higher module performance and higher total yields. In a half-cell module, standard full cells are cut into two equal halves. In addition, the module is also divided into an upper and a lower half and the half-cells arranged thereon.

By dividing the cells, the power generated per cell is halved and resistance losses on cell and module level are reduced to one quarter. In addition, the halved current can significantly reduce the temperature in the cells and therefore reduce the risk of hot spot effects. The three small junction boxes, each fitted with only one bypass diode, are transferring less heat to the cells below as well. These factors also boost the longevity of the overall system and dividing the module in half will also have an impact on the overall performance. The path of the generated current is shortened by dividing the module, further reducing resistance losses. Mounting the module vertically will also prove beneficial in shading situations. For example, if the lower half of the module is shaded, users can still generate a 50% performance with the upper half, while the production of a full cell module completely breaks away. This could be the case with inter-row shading for free-field or tilt-mounted roof installations. With half-cell modules, therefore, higher wattage classes and higher yields per system can be achieved.

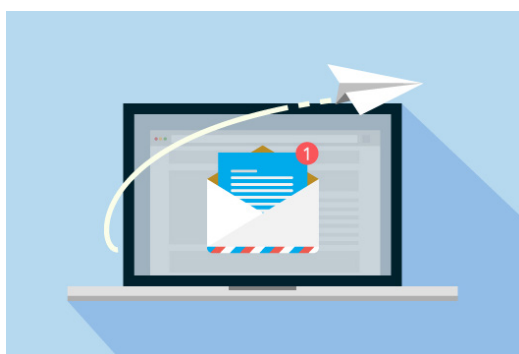
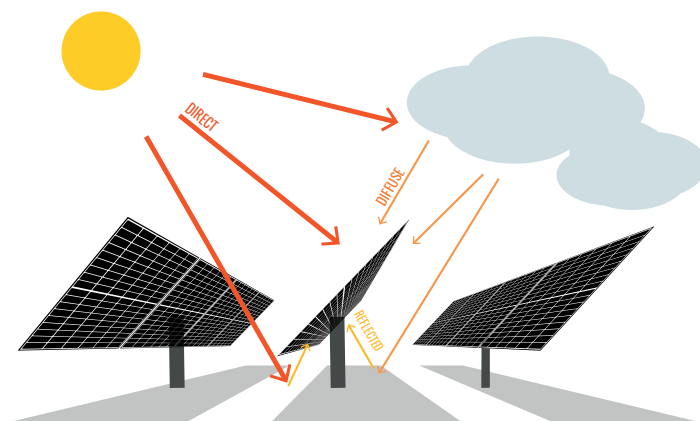
Engineered for low LCOE

Our monocrystalline PV modules are optimised to achieve low LCOE (Levelised Cost of Electricity) so that you can maximise your return on investment. Your choice of PV panel affects LCOE in three ways.



Bifacial Technology

The additional gain of bifacial modules is coming from irradiance received on the back of the module. This can be reflected direct sunlight, reflected diffuse sunlight or diffuse light that is not reflected. Instead of an opaque backsheet on the back of the PV panel the back of our bifacial panels has a glass layer that allows light to reach the back of the cells. This additionally generated energy is the main benefit of bifacial technology over monofacial technology.



Subscribe to our newsletter
for business customers



Register here!

www.sharpssolar.eu/newsletter

Industry leading guarantees

Start the guarantee period with the handover to the end customer

SHARP offers a product guarantee and linear power output guarantee. These guarantees to the end user start at the point when the product actually arrives at the end user. All customer guarantees are managed from our offices in Hamburg, Germany.

Product guarantees*

15
YEARS

Monofacial & bifacial panels with a silver frame

15 years is valid in EU and select countries, 12 years globally.

25
YEARS

Monofacial black frame NU-JC4XXB

25 years is valid in EU and select countries, 12 years globally.

Power output guarantees*

25
YEARS

25 year linear power output guarantee on monofacial panels

Guaranteed minimum power output of 98% of P_{nom} in the first year and minimum of 85% in year 25. 0.54% maximum annual degradation after the first year.

30
YEARS

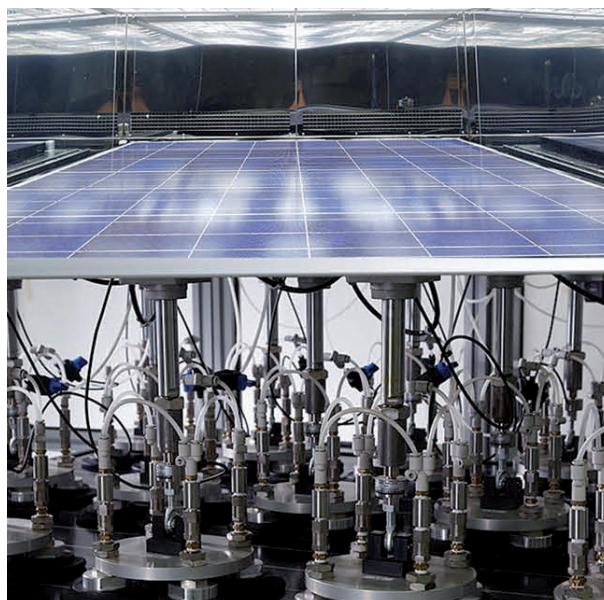
30 year linear power output guarantee on bifacial panels

In year 30, PERC bifacial panels have guaranteed minimum power output of 85% and TOPCon bifacial panels have 87.5% of P_{nom}.

Proven quality

Provide reliable products which passed the hardest tests

Our extensive, discerning tests are based on decades of industry experience and are up to five times stricter than IEC standards demand. We know the typical module failures and can test new production materials accordingly to ensure our modules' top quality. From compliance with international standards to endurance under extreme conditions: our PV modules have been tested, certified and awarded by a number of independent institutions. Please check the current specific data sheet and related documents for available certificates for each product.



Sleek black designs

Satisfy your style conscious customers

Our monocrystalline panels with black frames offer a homogeneous and sleek design that blends in with a building's architecture.



Prosumer
Award '22/'23

PID

PID free
(IEC TS62804)



Top Brand
PV Award '23



5,400 Pa
Tested Snow Load
(IEC 61215)



Certified



Ammonia Test
(IEC62716)



ISO14001
certified



Salt Mist Test
(IEC61701)



Certified



Sand / Dust Test
(IEC60068)

*Please check the guarantee conditions for your area before purchasing.

Trust in over 50 million SHARP panels installed in every environment

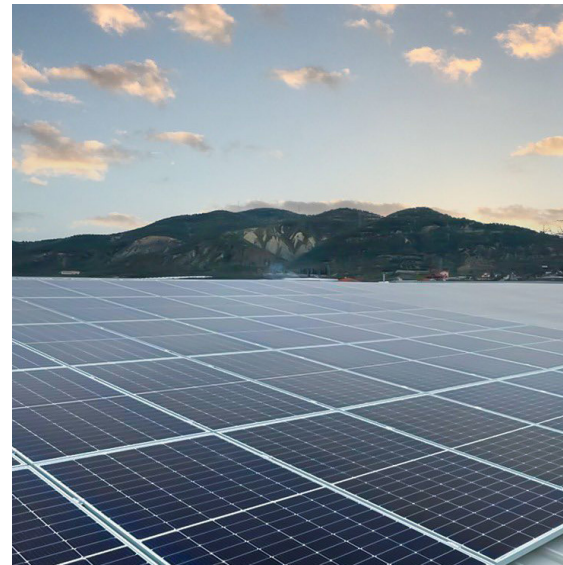
SHARP PV products are being used around the world, in a wide range of applications and environments. From the mountains to the desert, from icy climates to extreme humidity and heat, our PV modules have proven robust and reliable, contributing to a better energy future everywhere.



Mountain installations
(strong wind pressure)



Desert installations (up to 50° C)



Large scale projects



Solar car parks



Seafront installations



Residential installations



Press Releases

www.sharp.eu/solar-press



View Case Studies

www.sharp.eu/solar-case-studies



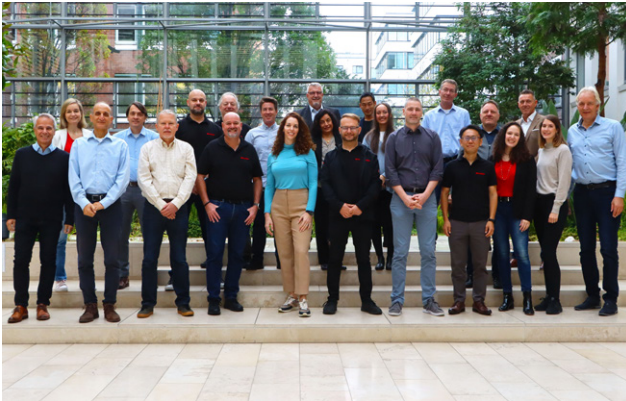
Follow us!

Tag us in your posts @SHARPSolarEMEA
And use the #sharpsolar



Industrial installations

Contact us and we will be happy to assist



Superior service based in Europe

Our solar service, sales, and support teams are based in Hamburg, Germany for more than 20 years. We like to be close to our customers and partners and have our stock close, too. That is why we operate from offices in Europe and have a warehouse here.



Go Online!

Get in touch with us now and meet the team.

www.sharp.eu/contact-us



See what our clients have to say:

"We chose SHARP for the sake of product quality, performance and guarantee. Its performance in our demanding and harsh weather conditions in Finland guarantees the best possible energy production compared to any other product we have used so far."

Antti Kostainen
PlayGreen, Finland

"SHARP modules have proved highly dependable in the past, with a very good price-performance ratio. Over the almost seven years of our partnership with SHARP, they have been consistently reliable and supportive. It is clearly a win-win situation."

Sándor Harcsa-Pintér
3comm, Hungary

» *"We've done more than 70 projects with SHARP modules so far. Their high quality and reliable guarantees give us great peace of mind."* «

Joan Grifé Singla
Seine Tech, Spain

"Our relationship with SHARP Service can be described best by the number of issues we have had with SHARP products in the past 18 years: ZERO! This is statistically impossible and yet, true!"

Christos Pronios
Eurosol

"All panels were delivered on time, which helped adhering our time schedule a lot and is required when installing 43,000 modules. Furthermore, the SHARP modules have exceeded our expectations in terms of quality and reliability. This was also confirmed by the great yields we generated so far."

Aldo Enerji
Akin Yalçın, Turkey

SHARP Electronics GmbH
Nagelsweg 33 – 35
20097 Hamburg, Germany
T: +49 (0) 40 / 2376-2436
E: SolarInfo.Europe@sharp.eu

sharp.eu/solar | @SHARPSolarEMEA
BROCHURE1118EN | 23v08

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