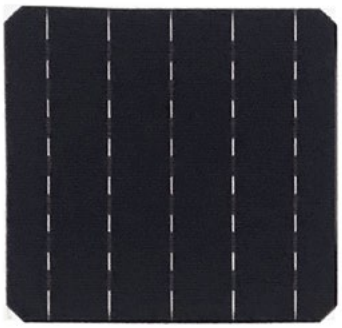
Bifacial Modules

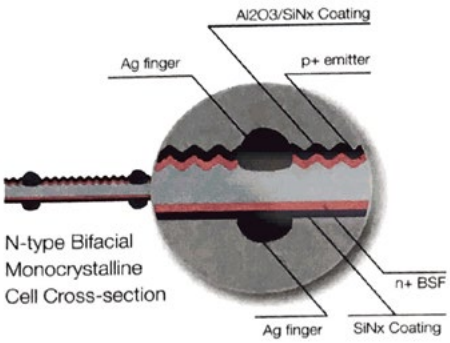
N60 - 320 Wp | N72 - 390 Wp | N40 - 220 Wp | N50 - 270 Wp

German technology and engineering

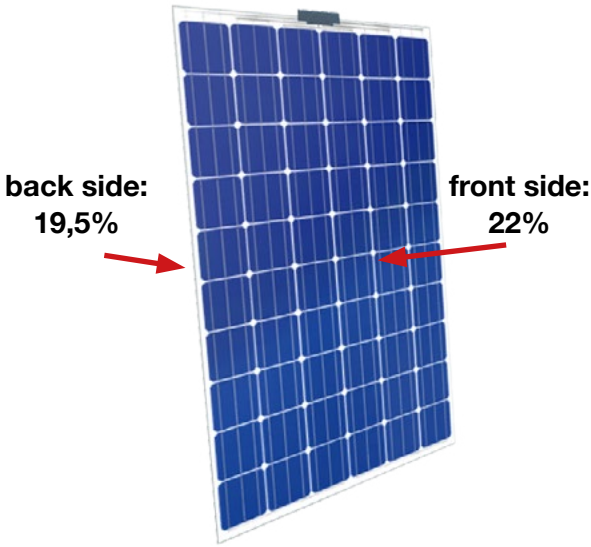
N-type Bifacial Cell



Rear side of N-type Bifacial Monocrystalline Silicon Cells



High Efficiency:



Core Advantages

Additional Power Generation Gain

Compared to P-Type solar cells, the N-type solar cells tend to have the efficiency rising obviously;

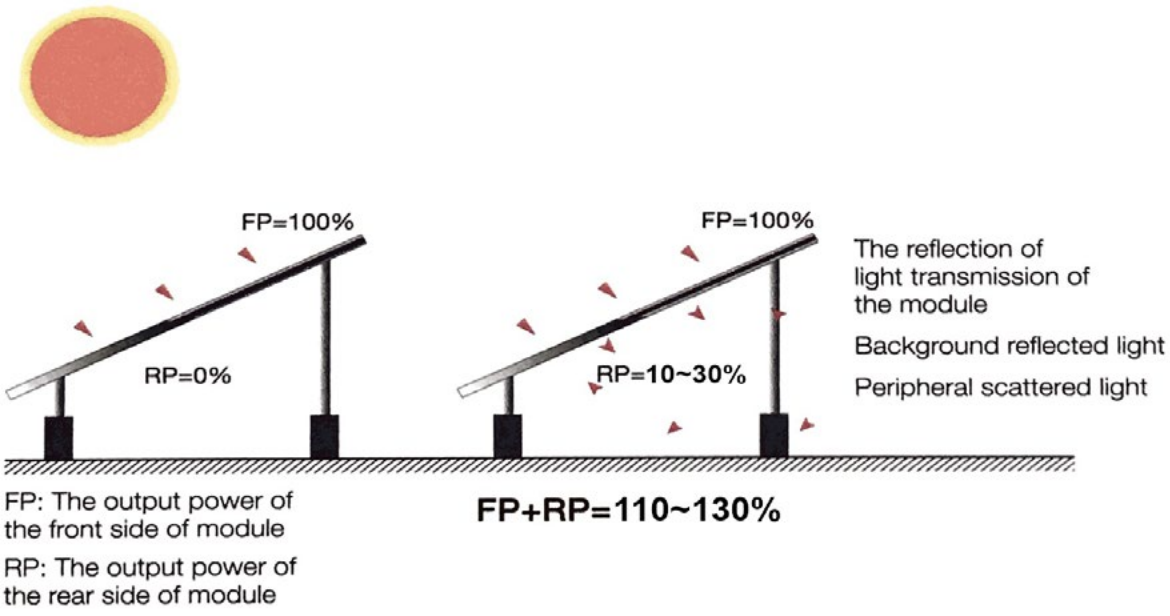
Bifacial solar cells will have a wider application prospect by virtue of the bifacial generating capacity and higher system efficiency and are especially suitable for snow-rich areas and such distributed generation systems as roofs, fences, fishing-light complementation, farming-light complementation and sound barriers.

Bifacial Power Generation

The cell back efficiency can reach more than 19% and the back incident rays can be used to improve the generating capacity of the system, with the unit area capacity gain up to 10% ~ 30%.

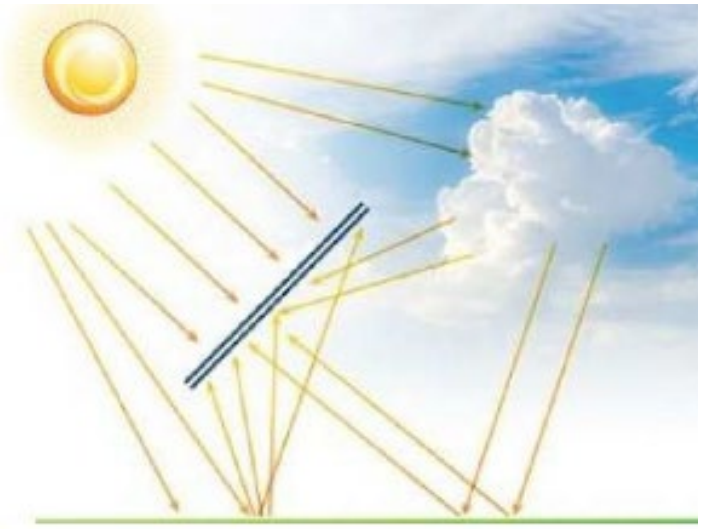
High Conversion Rate

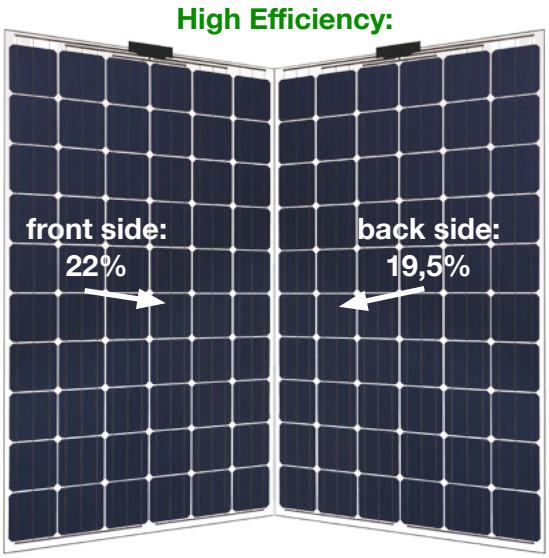
The cell front surface has a conversion rate of 22%.



Advantages of Bifacial Modules

double yield



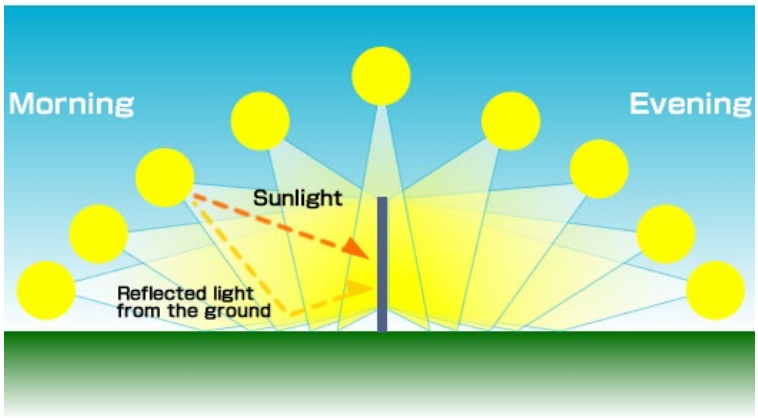


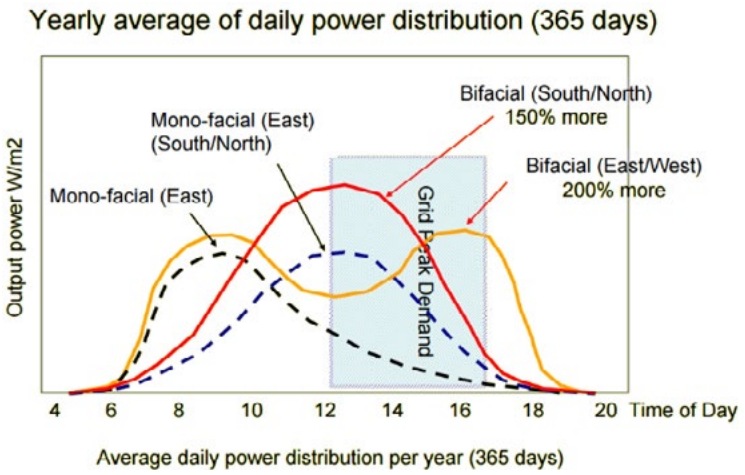
For the glass module with bifacial cell technology, the light is caught both on the front and on the back of the module. The increased light input increases the efficiency of the module. Up to 360 Wp total power can be achieved via the active module rear (285 Wp only front / 330- 360 Wp by 360 ° irradiation).

+ 10-20% extra yield: low reflecting surfaces (e.g., tile roof, grass); Mounting distance to substrate max. 40cm

+ 20-30% extra yield: good reflective surfaces (eg flat roof with gray film, sand); Mounting distance to the ground 40cm -1.5m

+ 30-35% extra yield: very good reflective surfaces (e.g. glacier, snow); Mounting distance to the ground larger than 1.5m





Designed in Germany - Made in Morocco

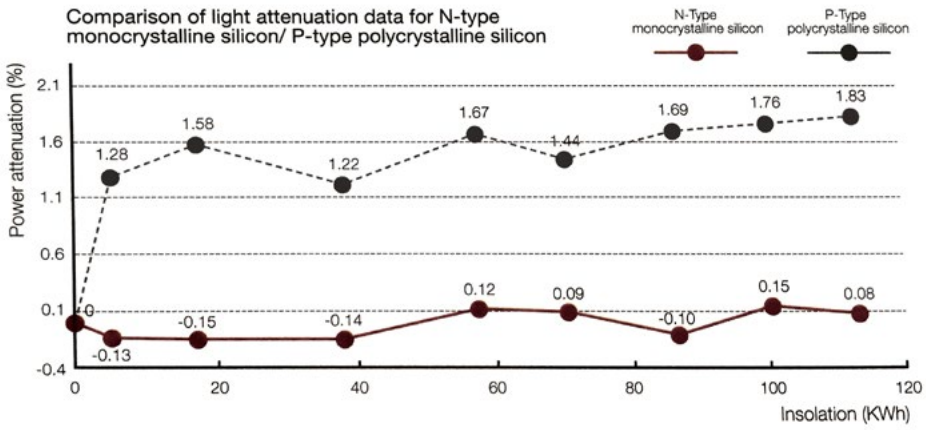
Premium Line

Technical specifications

for our n-type modules (bifacial)

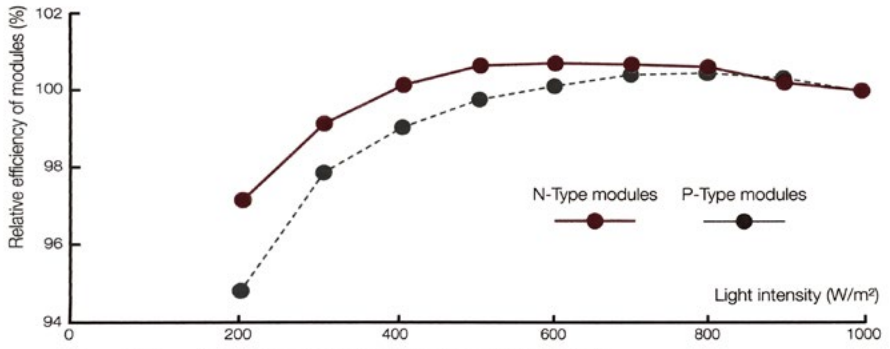
Lower Light induced Degradation

The N-type Bifacial Modules can better ensure the generating capacity of the power plant and shorten the investment return period.



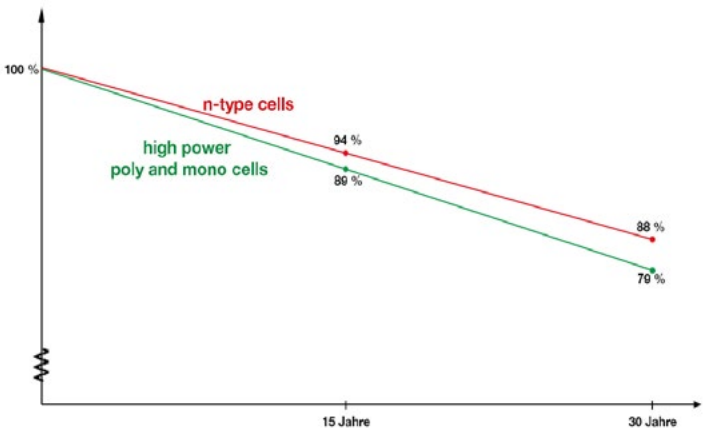
Strong weak Illumination Response

The N-type substrate materials feature longer minority carrier lifetime, so the N-type Bifacial Modules can offer better generating capacity than the conventional P-type modules under low light settings.



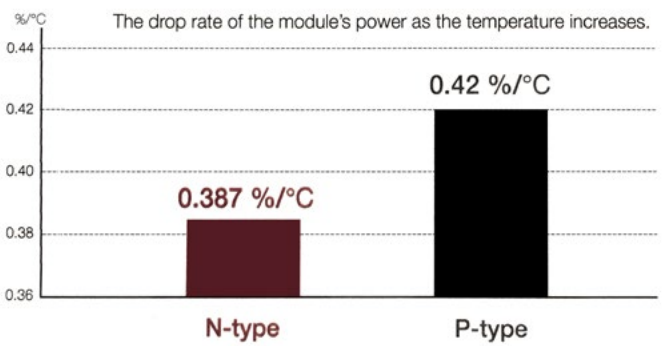
Source: D. Song et al., Photovoltaic Specialists Conference (PVSC), 2012 38th IEEE, Austin, TX, 2012, pp. 003004-003008

Low Degradation Coefficient



Lower Temperature Coefficient

Under the condition of the same temperature rise, the power attenuation of N-type modules is smaller than that of the P-type modules.



N60 bifacial
Double Glass Module

Premium Line

+5W

N60 - 320 Wp
monocrystalline n-type cells

DIMENSIONS: 1662 x 990 x 5 mm

ELECTRICAL SPECIFICATION (STC)

Rated Power (Pmpp)	320 W
Rated Current (Impp)	10.07 A
Rated Voltage (Vmpp)	31.8 V
Short Circuit Current (Isc)	10.56 A
Open Circuit Voltage (Voc)	39.1 V

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline (N-Type Bifacial)
Cell Dimension	156 mm x 156 mm (6“ x 6“)
Module Dimension Size 1	**1662 mm x 990 mm x 5 mm (30 mm with J-box)**
Weight Size 1	**20kg**
Front Glass	2 mm tempered AR glass
Back Glass	2 mm tempered glass

LIMITS

Operational Temperature	°C	-40~+85
Maximum Static Load	Pa	5400
Maximum Wind Load	Pa	2400
Maximum System Voltage	V(DC)	IEC:1000 UL:600
Maximum Series Fuse Rating	A	15

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Premium Line

N72 bifacial
Double Glass Module

DIMENSIONS: 1980 x 990 x 5 mm

N72 - 390 Wp
monocrystalline n-type cells

ELECTRICAL SPECIFICATION (STC)

Rated Power (Pmpp)	390 W
Rated Current (Impp)	10.36 A
Rated Voltage (Vmpp)	37.65 V
Short Circuit Current (Isc)	11.00 A
Open Circuit Voltage (Voc)	46.28 V

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline (N-Type Bifacial)
Cell Dimension	156 mm x 156 mm (6“ x 6“)
Module Dimension Size 2	**1980 mm x 990 mm x 5 mm (30 mm with J-box)**
Weight Size 2	**24kg**
Front Glass	2 mm tempered AR glass
Back Glass	2 mm tempered glass

LIMITS

Operational Temperature	°C	-40~+85
Maximum Static Load	Pa	5400
Maximum Wind Load	Pa	2400
Maximum System Voltage	V(DC)	IEC:1000 UL:600
Maximum Series Fuse Rating	A	15

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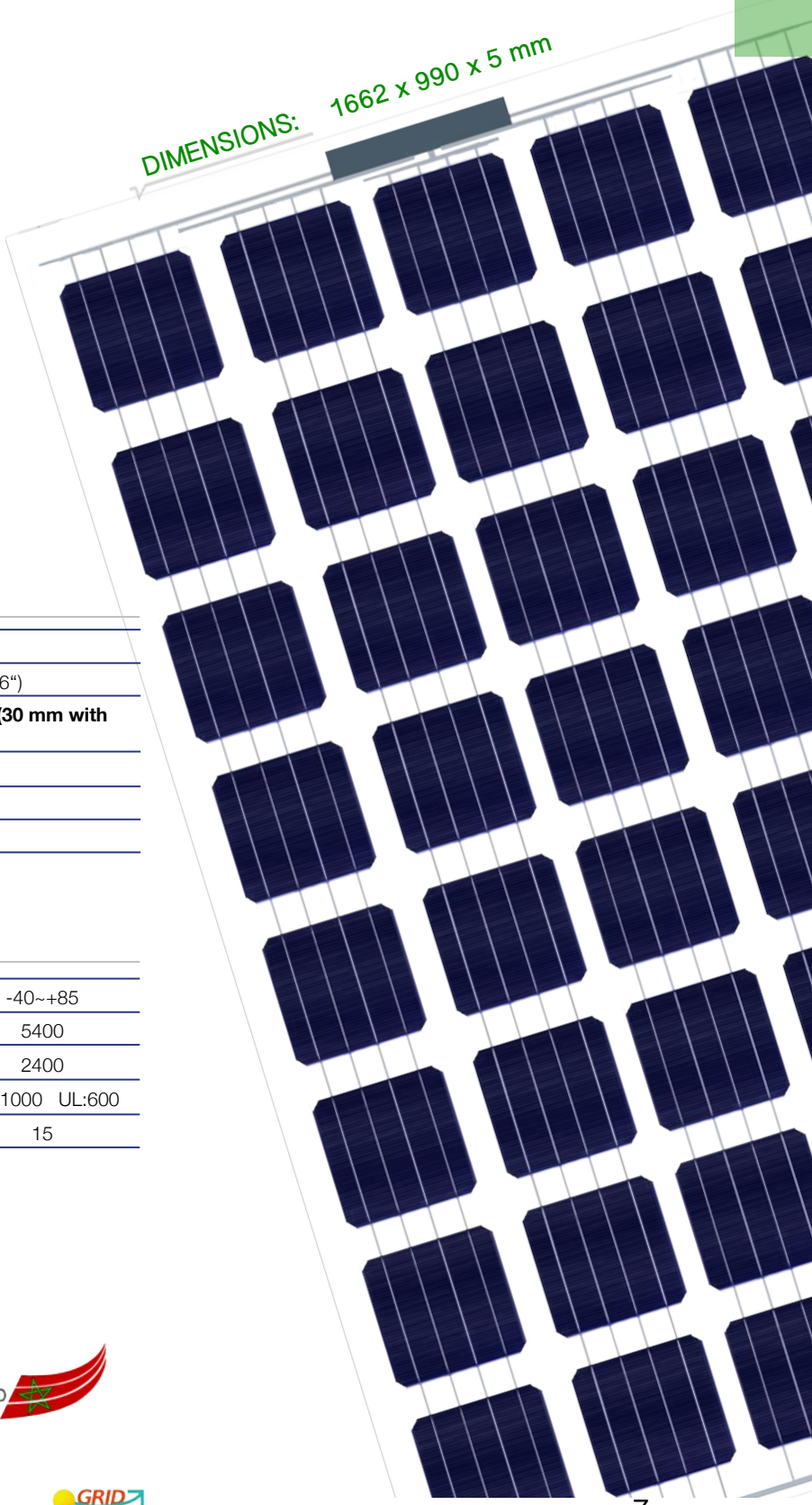
N40 bifacial
Double Glass Module

Premium Line

N40 - 220 Wp
monocrystalline n-type cells



ELECTRICAL SPECIFICATION (STC)

Rated Power (Pmpp)	220 W
Rated Current (Impp)	10.30 A
Rated Voltage (Vmpp)	21.35 V
Short Circuit Current (Isc)	10.68 A
Open Circuit Voltage (Voc)	26.61 V

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline (N-Type Bifacial)
Cell Dimension	156 mm x 156 mm (6“ x 6“)
Module Dimension Size 1	**1662 mm x 990 mm x 5 mm (30 mm with J-box)**
Weight Size 1	**20kg**
Front Glass	2 mm tempered AR glass
Back Glass	2 mm tempered glass

LIMITS

Operational Temperature	°C	-40~+85
Maximum Static Load	Pa	5400
Maximum Wind Load	Pa	2400
Maximum System Voltage	V(DC)	IEC:1000 UL:600
Maximum Series Fuse Rating	A	15

TÜV SÜD CERTIFIED TO IEC61215 / IEC61730

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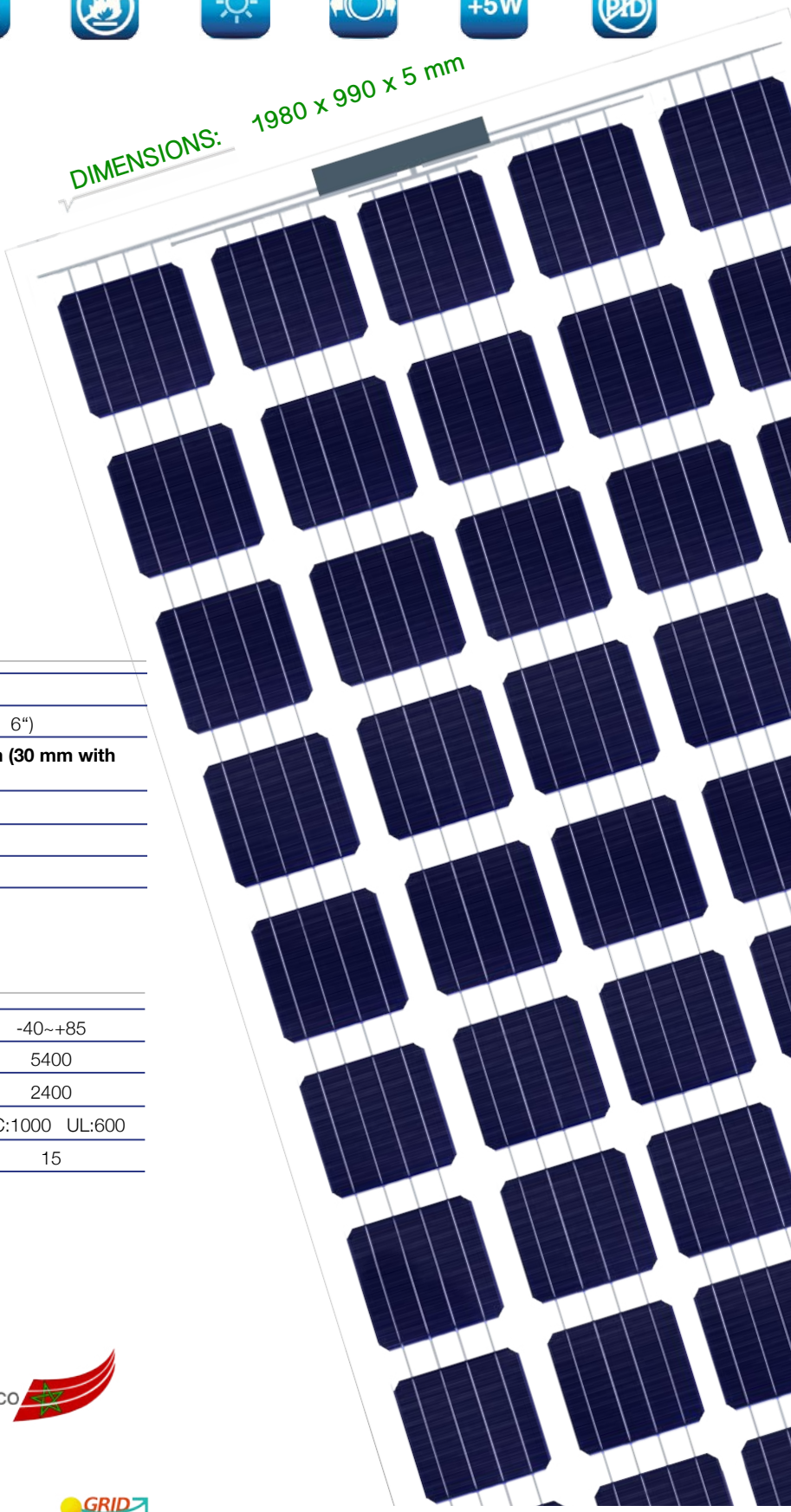
GRID PARITY next generation photovoltaic

Premium Line

N50 bifacial
Double Glass Module



N50 - 270 Wp
monocrystalline n-type cells

ELECTRICAL SPECIFICATION (STC)

Rated Power (Pmpp)	270 W
Rated Current (Impp)	9.89 A
Rated Voltage (Vmpp)	27.31 V
Short Circuit Current (Isc)	10.54 A
Open Circuit Voltage (Voc)	33.05 V

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline (N-Type Bifacial)
Cell Dimension	156 mm x 156 mm (6“ x 6“)
Module Dimension Size 2	**1980 mm x 990 mm x 5 mm (30 mm with J-box)**
Weight Size 2	**24kg**
Front Glass	2 mm tempered AR glass
Back Glass	2 mm tempered glass

LIMITS

Operational Temperature	°C	-40~+85
Maximum Static Load	Pa	5400
Maximum Wind Load	Pa	2400
Maximum System Voltage	V(DC)	IEC:1000 UL:600
Maximum Series Fuse Rating	A	15

TÜV SÜD CERTIFIED TO IEC61215 / IEC61730

CE

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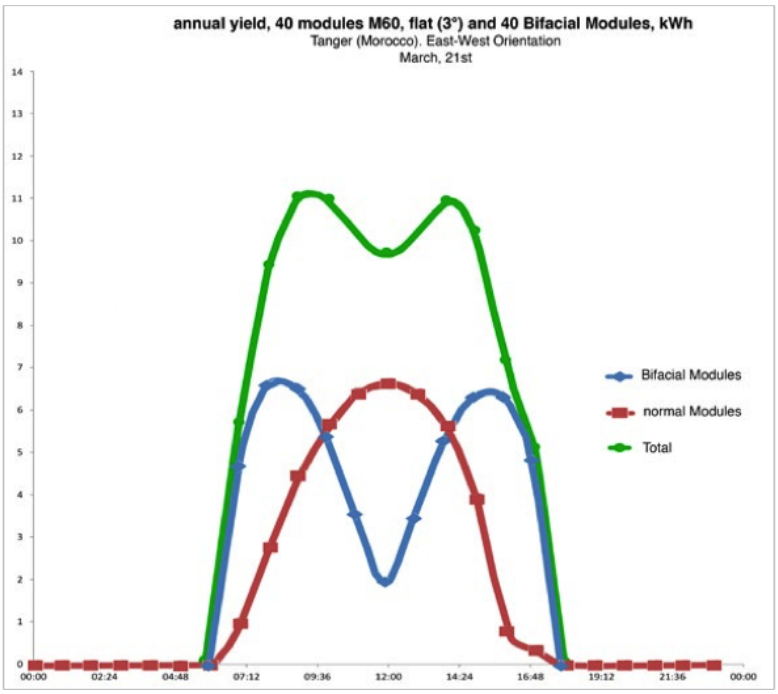
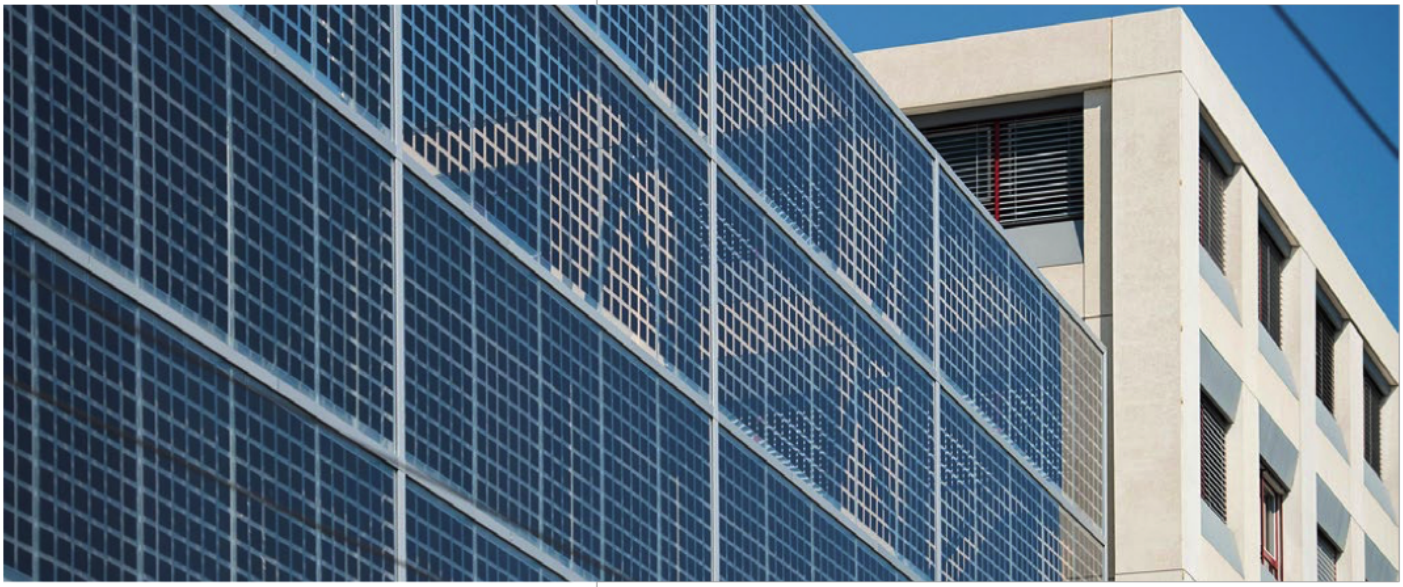
Typical examples of bifacial installations

Flat rooftop installation, white-coated

A combination of both installation provide a uniform yield over a long daily period



Noise barrier or facade instalation



Free Fassade Installation