

JA ROOFTOP MODULES

PRODUCT PORTFOLIO OF 54C MODULES

Reporter
Yue

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WWW.JASOLAR.COM



JA SOLAR



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An aerial photograph showing several rows of solar panels installed in a lush green field. A small stream flows through the field between the rows of panels. The panels are arranged in a grid pattern, and the surrounding vegetation is dense and vibrant green.

PART
01

JA SOLAR TALE



JA SOLAR'S ACHIEVEMENTS



+18
YEARS ON MARKET



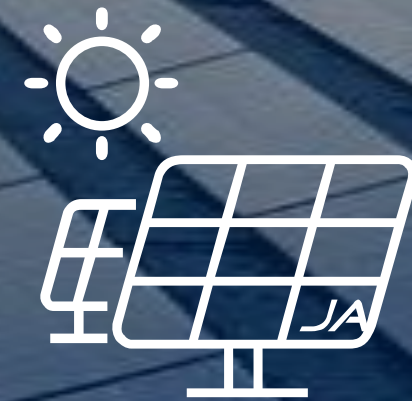
+32K
EMPLOYEES



16%
GLOBAL MARKET
SHARE



140GW
CUMULATIVE SHIPMENTS



NO.1
EU SHIPMENTS 2022



135
COUNTRIES & REGIONS



¥72.9B
2022 REVENUE



GLOBAL TOP 500
NEW ENERGY ENTERPRISES

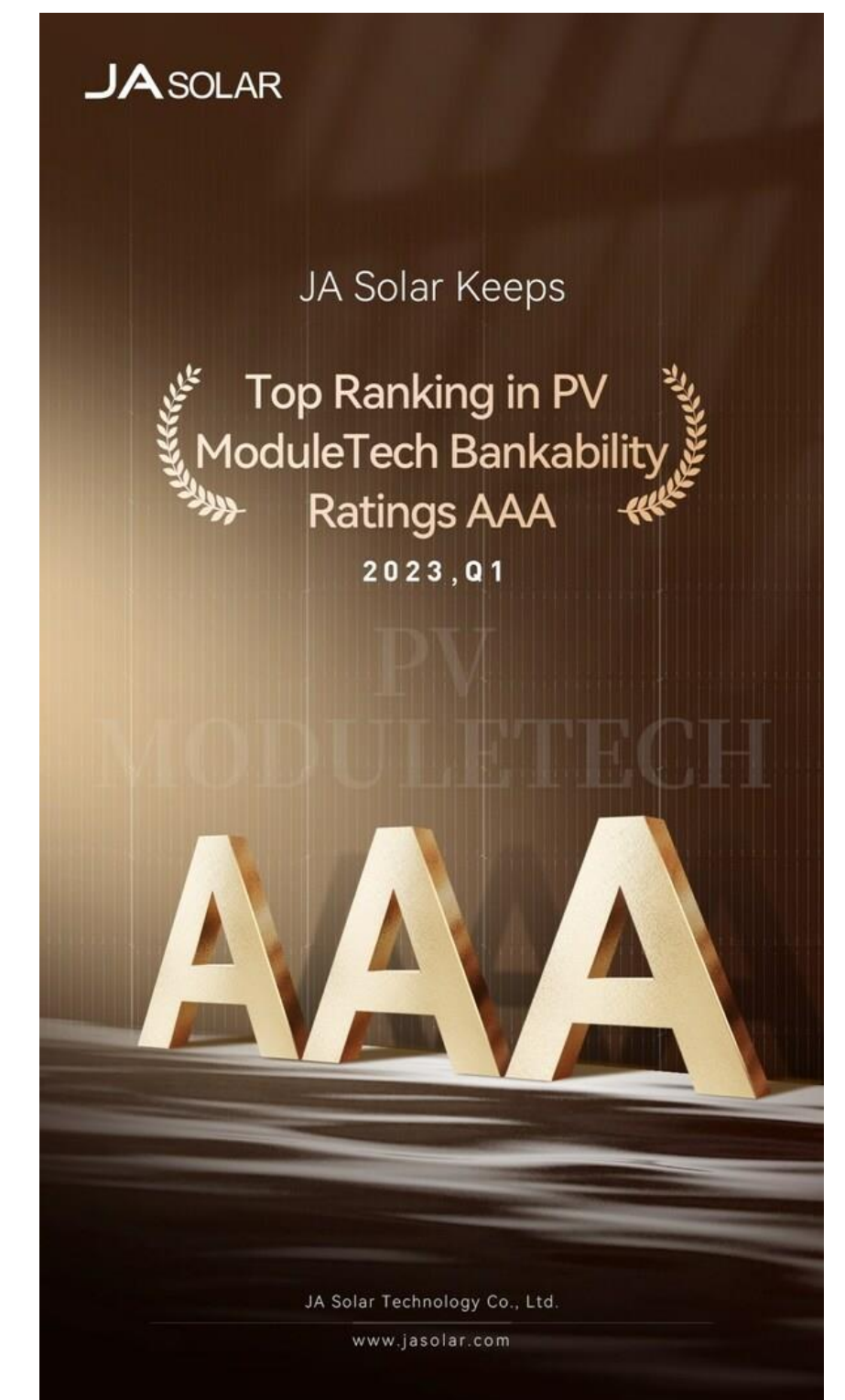
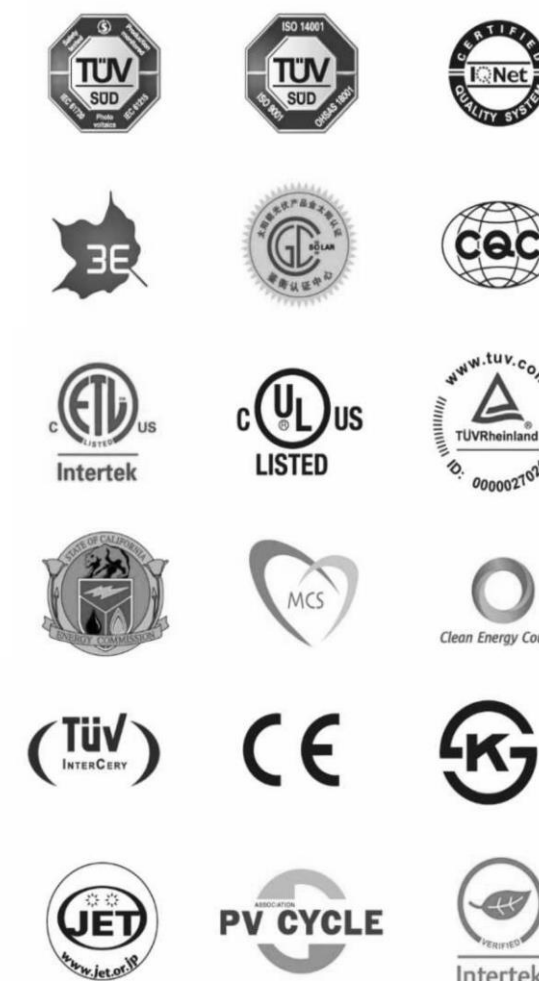


深圳证券交易所
SHENZHEN
STOCK EXCHANGE 



TOP BRAND PV SEAL

Won top brand PV seal from EUPD research for years consecutively in different countries and regions.





WHAT MAKES JA DIFFERENT?

RECOGNIZED RELIABILITY

- Long presence in Europe
- Experienced and dedicated team
- Supply availability

SUPERIOR PRODUCT CAPABILITY

- Tier 1 manufacturer
- Diversed product portfolio for Residential, C&I and utility projects
- Stable product quality with a failure rate <math><0.005\%</math> in 2022
- Production capacity (90+GW) in 2023

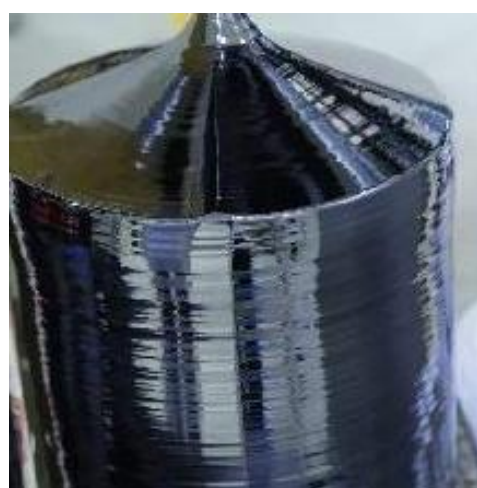


Availability of 5 harbors in China and 6 harbors in Europe to unload containers



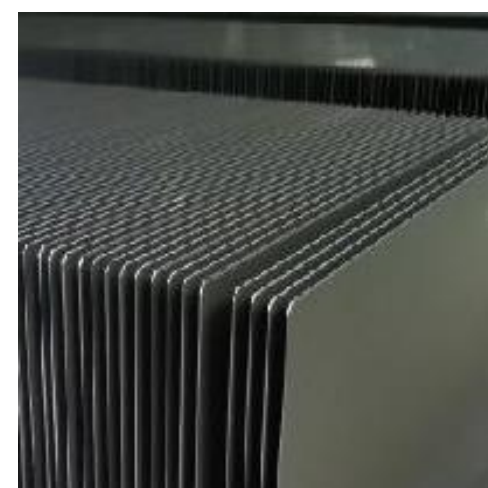
JA SOLAR HAS
VERTICAL
INTEGRATION
IN MODULE
PRODUCTION.

INGOTS



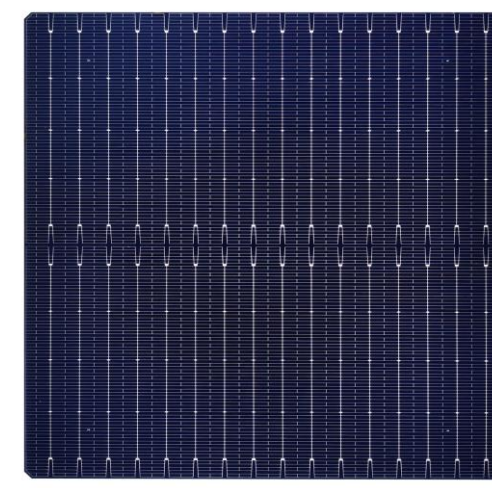
Capacity: 85GW

WAFERS



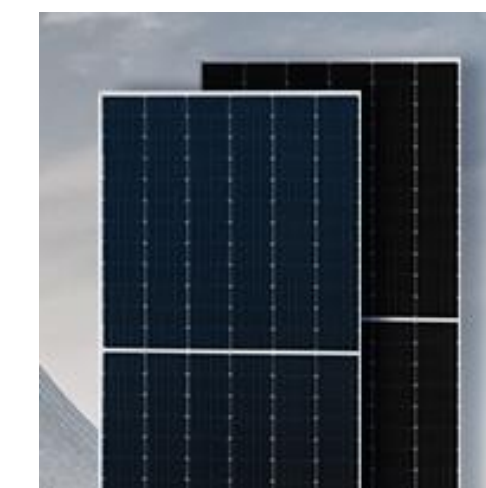
Capacity: 85GW

CELLS



Capacity: 85GW

MODULES



Capacity: 95GW

ROOF PROJECTS



Solar Projects

Profound knowledge of

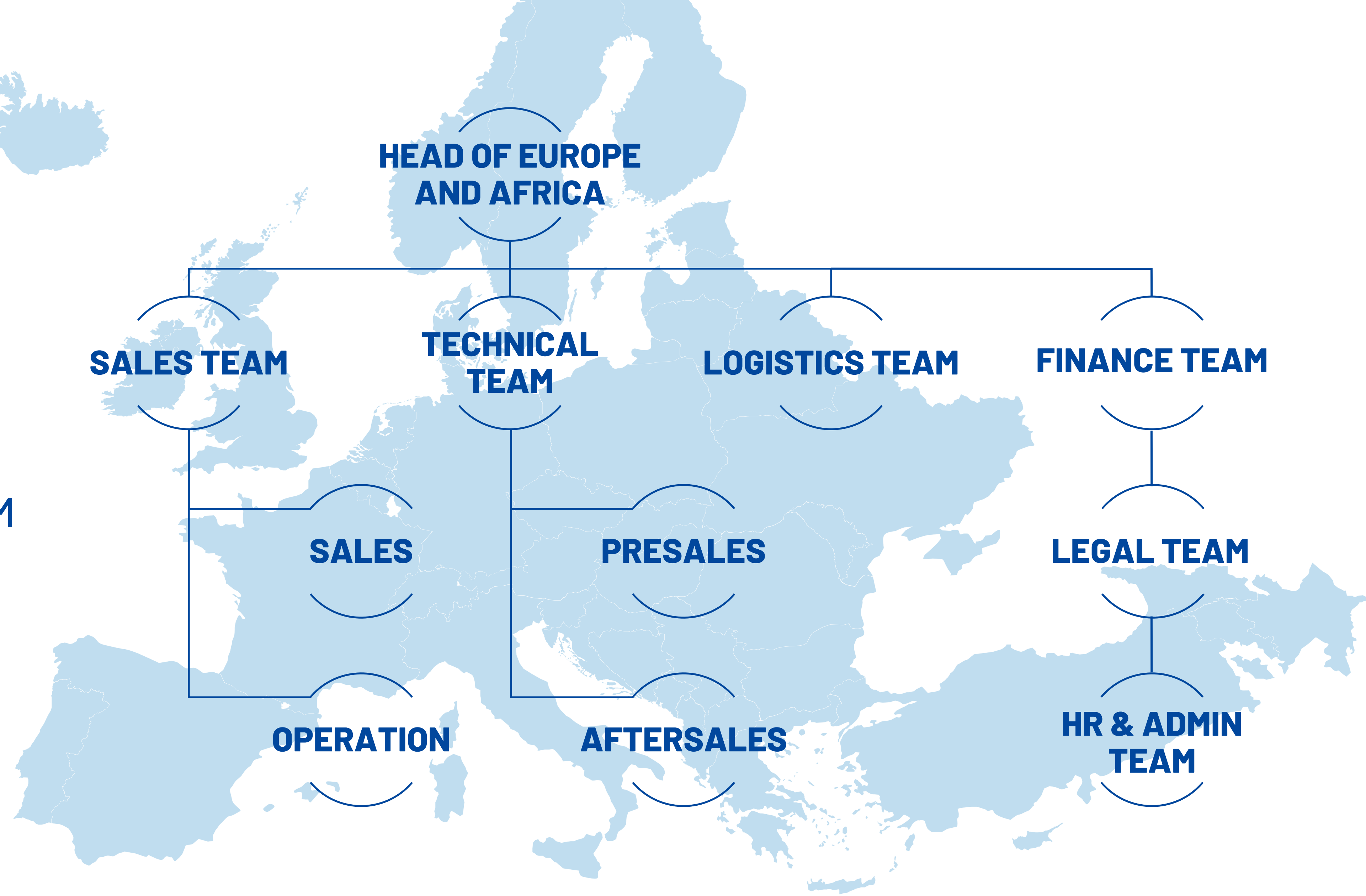
- PV technology
- Raw materials
- Wafer and cells
- Modules and the entire system

Controlling of

- The product quality
- The cost
- The production capacity



DEDICATED TEAM



**A CUSTOMER
ORIENTED TEAM
IN EUROPE.**



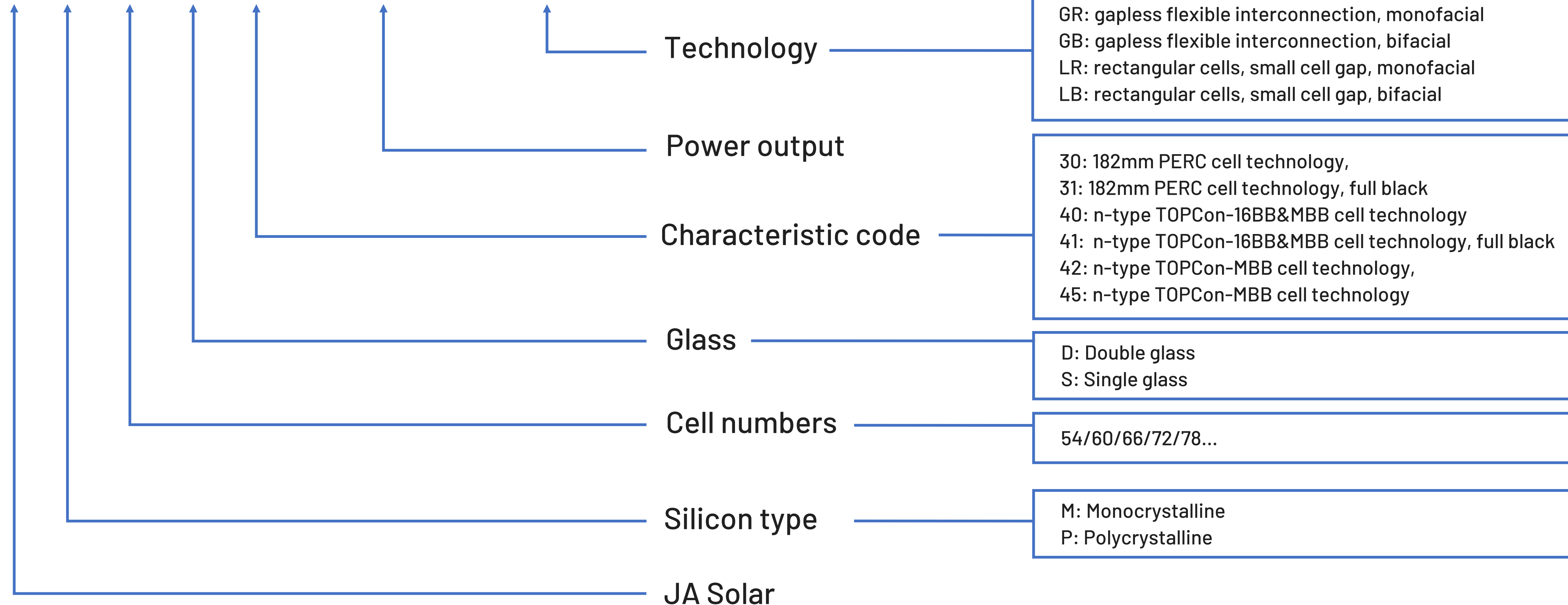
PART
02

ROOFTOP
PRODUCTS



PRODUCT NAMING

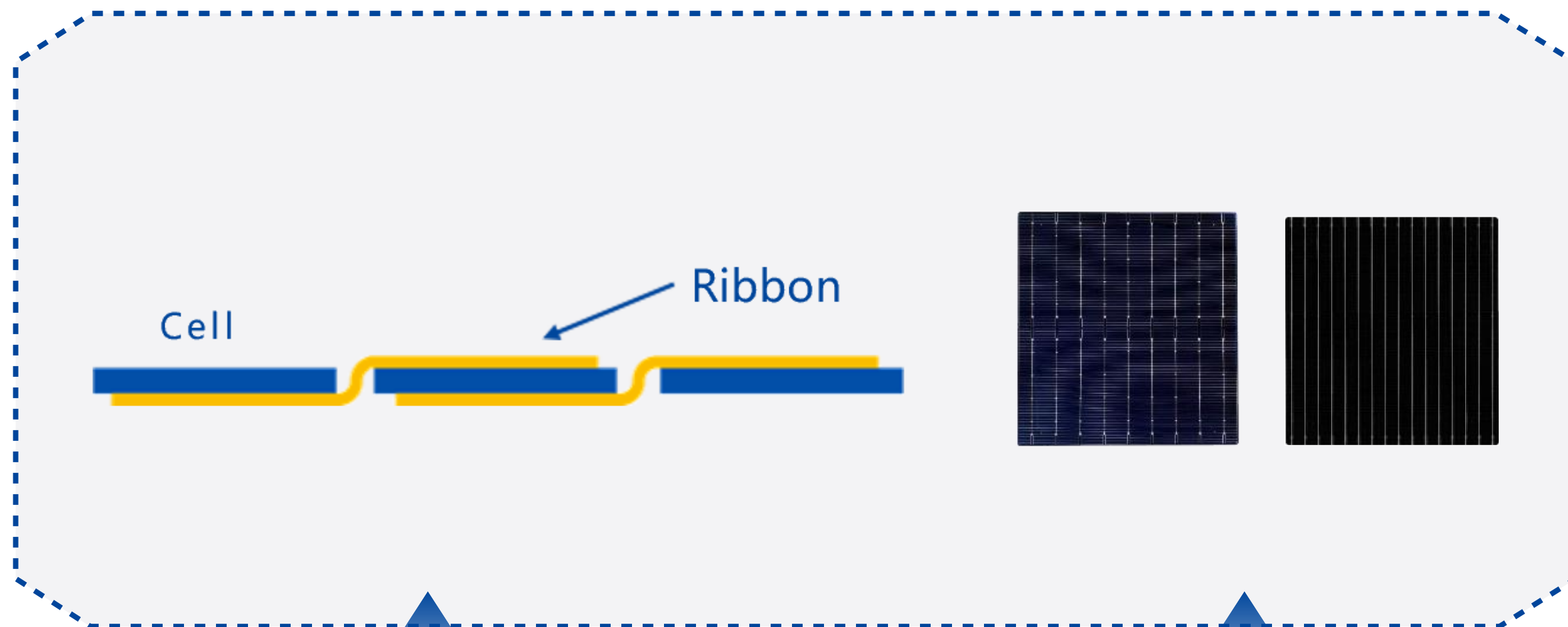
JAM 54 D 40 430-455 / LB





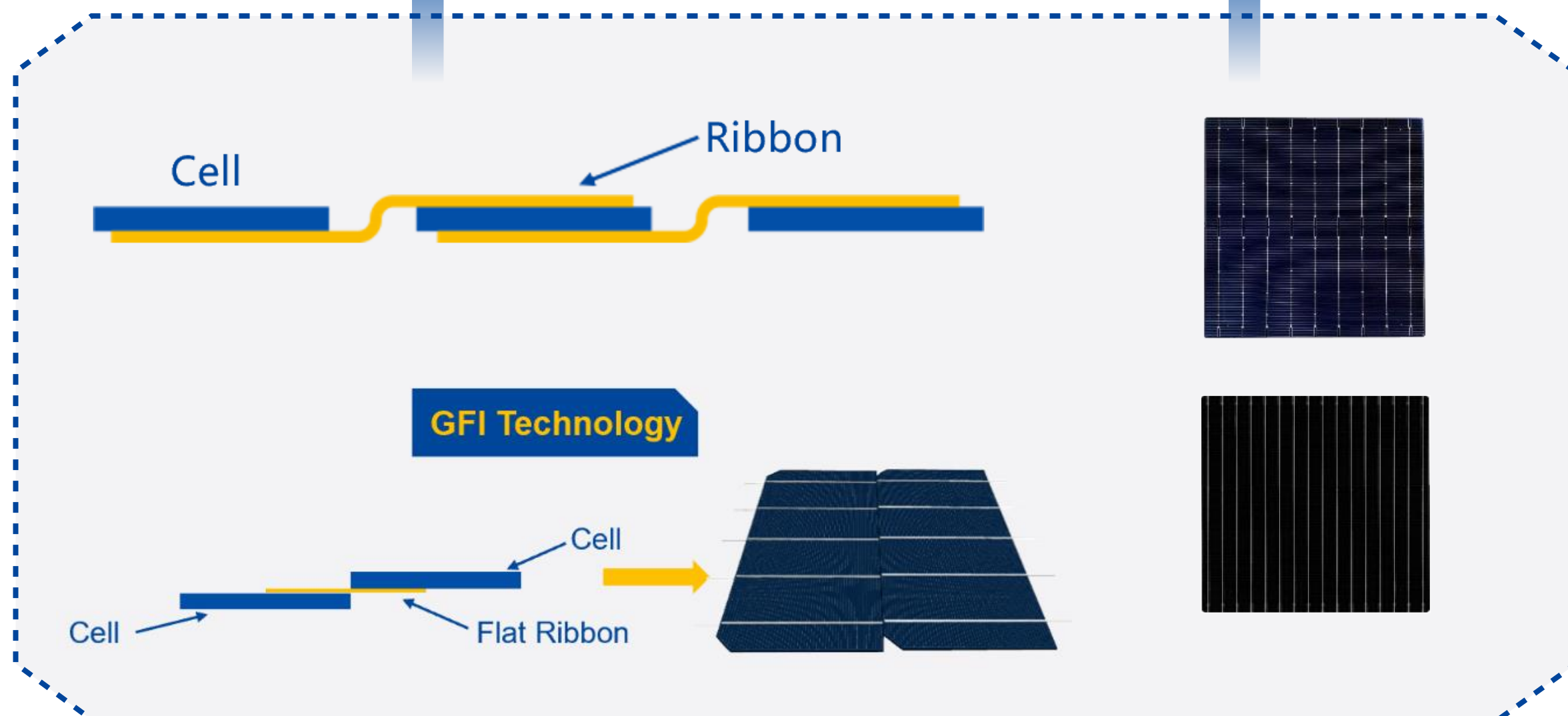
PRODUCT TECHNOLOGIES OF 54C MODULES

LR/LB



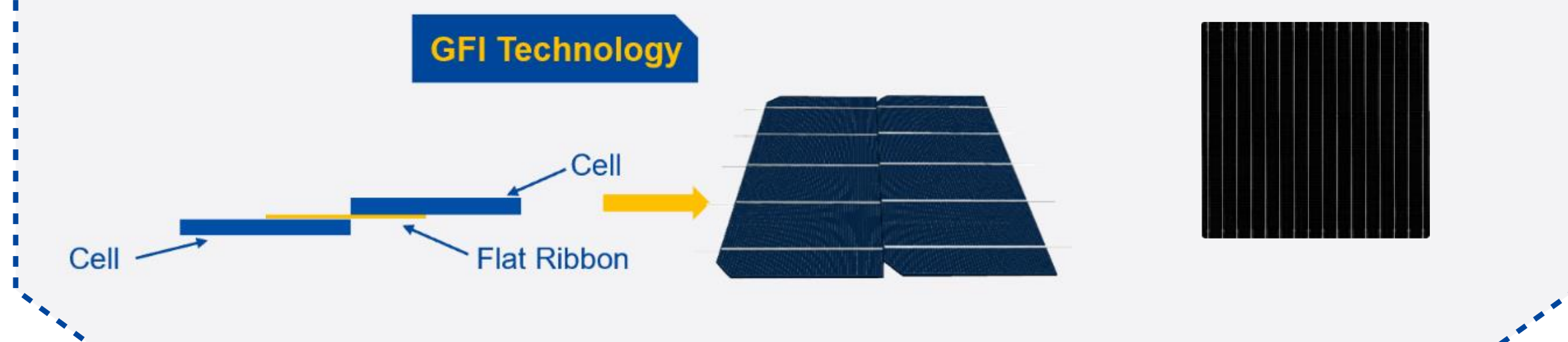
- Modules with LR/LB technologies use Rectangular TOPCon n-type cell or rectangular PERC p-type cell
- LR/LB with Optimized gaps between cells
- LR and LB are the mainstream technologies in H2 2023 and 2024

MR/MB



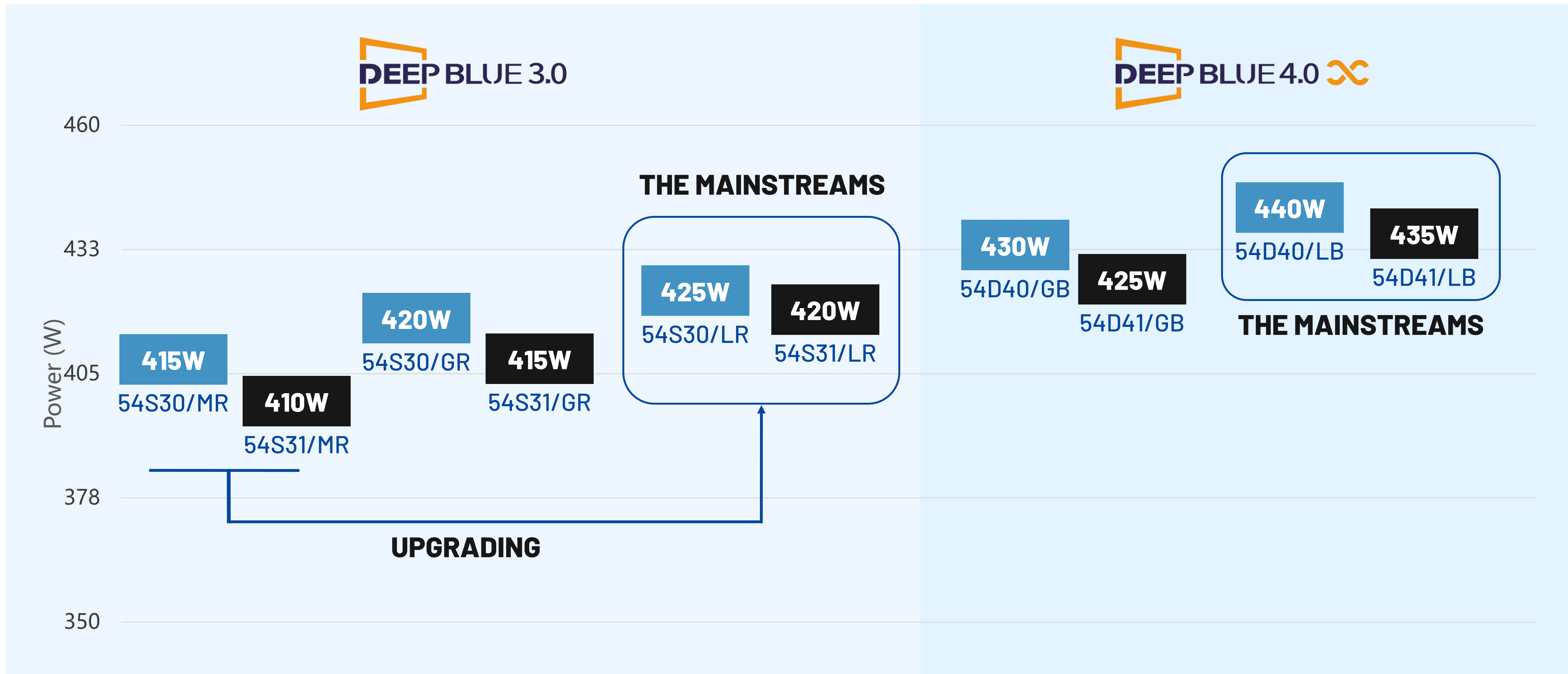
- Modules with MR/MB and GR/GB technologies use both TOPCon n-type and PERC p-type cells
- MR/MB are square cells with Regular gaps
- GR/GB with GFI gapless interconnection between cells

GR/GB

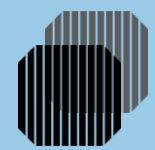




ROOFTOP MODULE RANGE



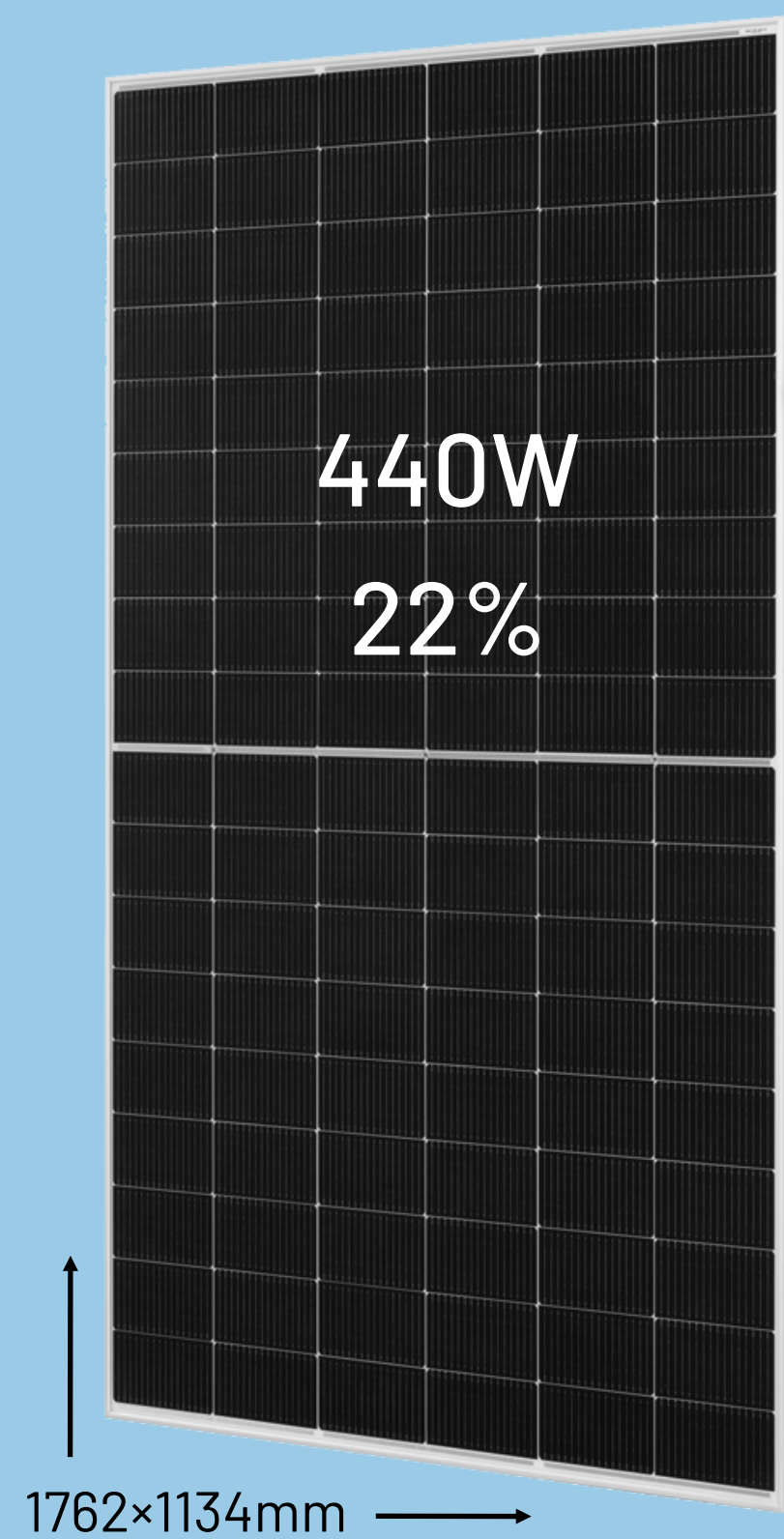
Standard module Black module



ROOFTOP PRODUCTS / N-TYPE

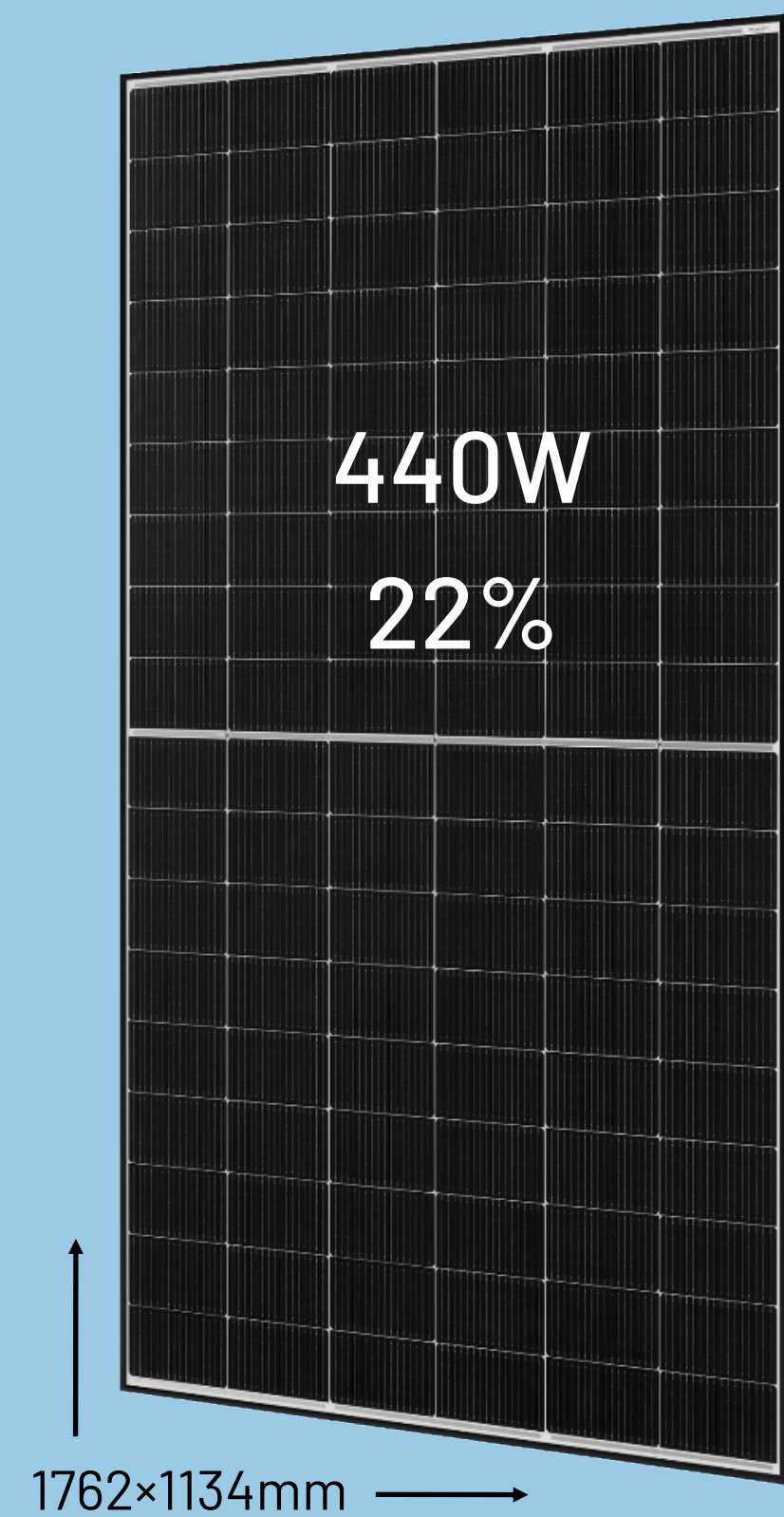
JAM54D40/LB

SILVER FRAME



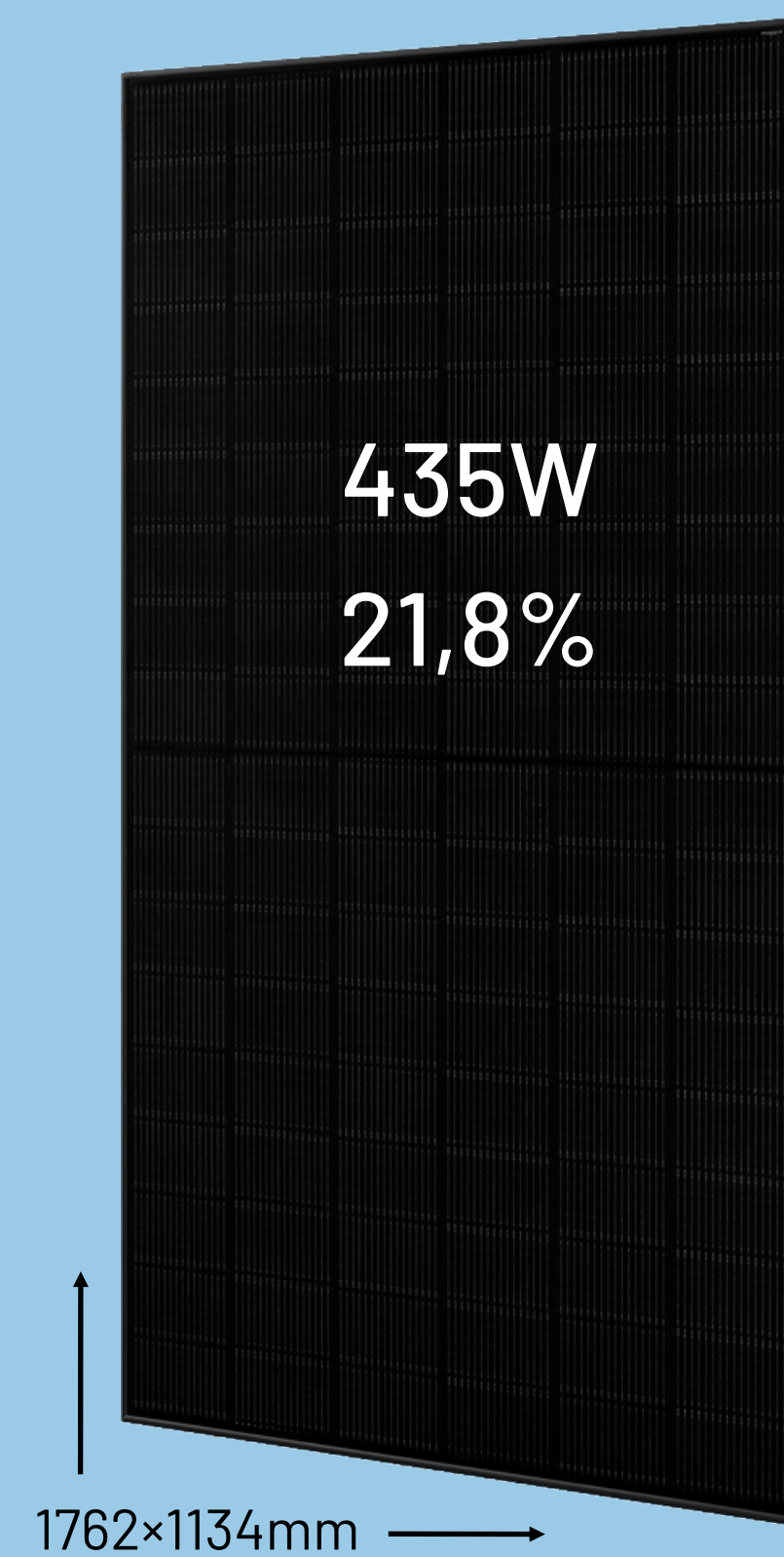
JAM54D40/LB

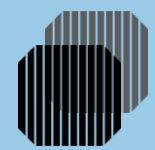
BLACK FRAME



JAM54D41/LB

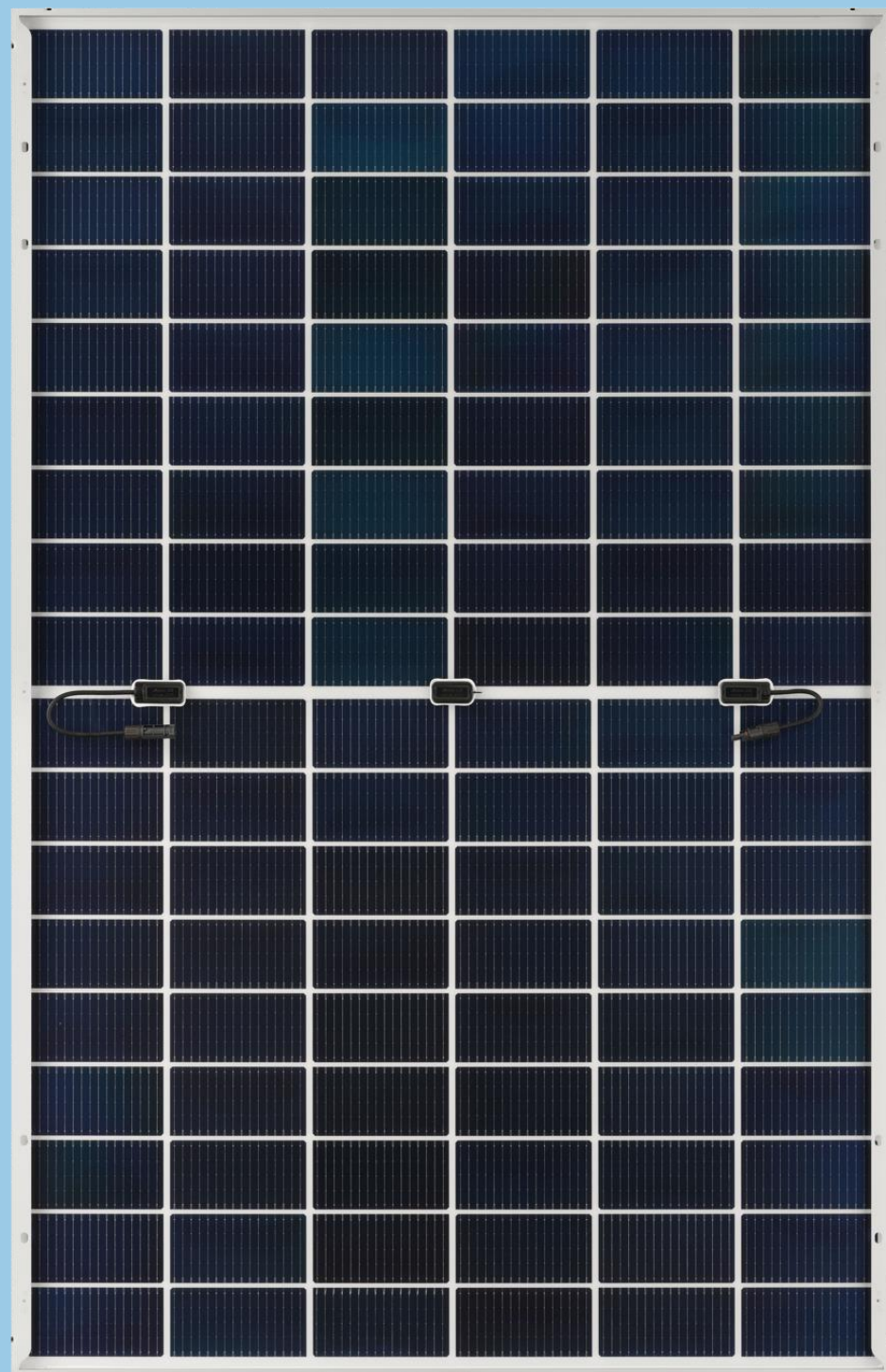
FULL BLACK





JAM54D40/LB

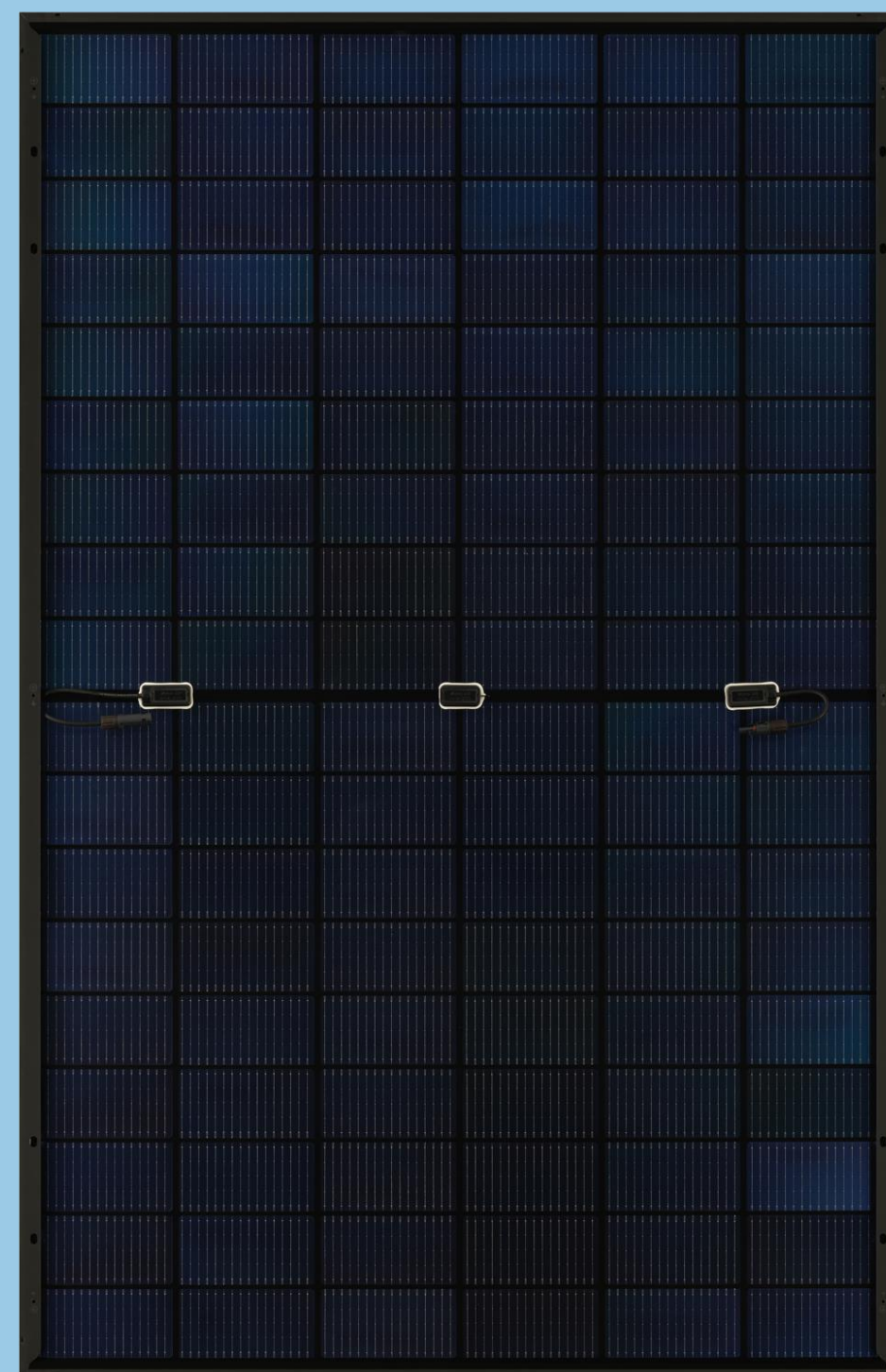
SILVER & BLACK FRAME



1762×1134mm

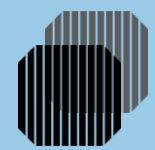
JAM54D41/L

FULL BLACK



1762×1134mm

BACKSIDE



ROOFTOP PRODUCTS / PERC

JAM54S30/MR

SILVER FRAME

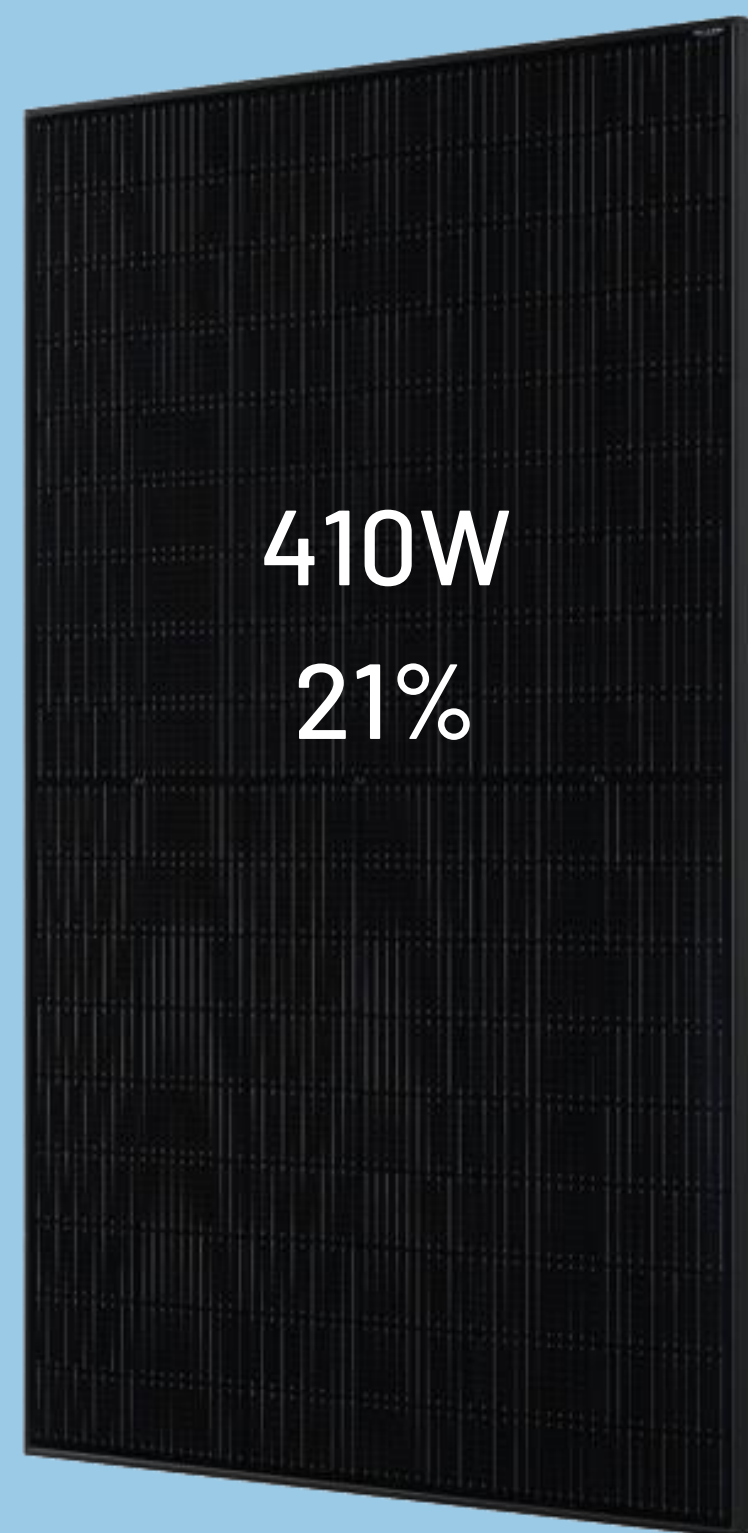


415W
21.3%

1722×1134mm

JAM54S31/MR

FULL BLACK



410W
21%

JAM54S30/LR

SILVER FRAME

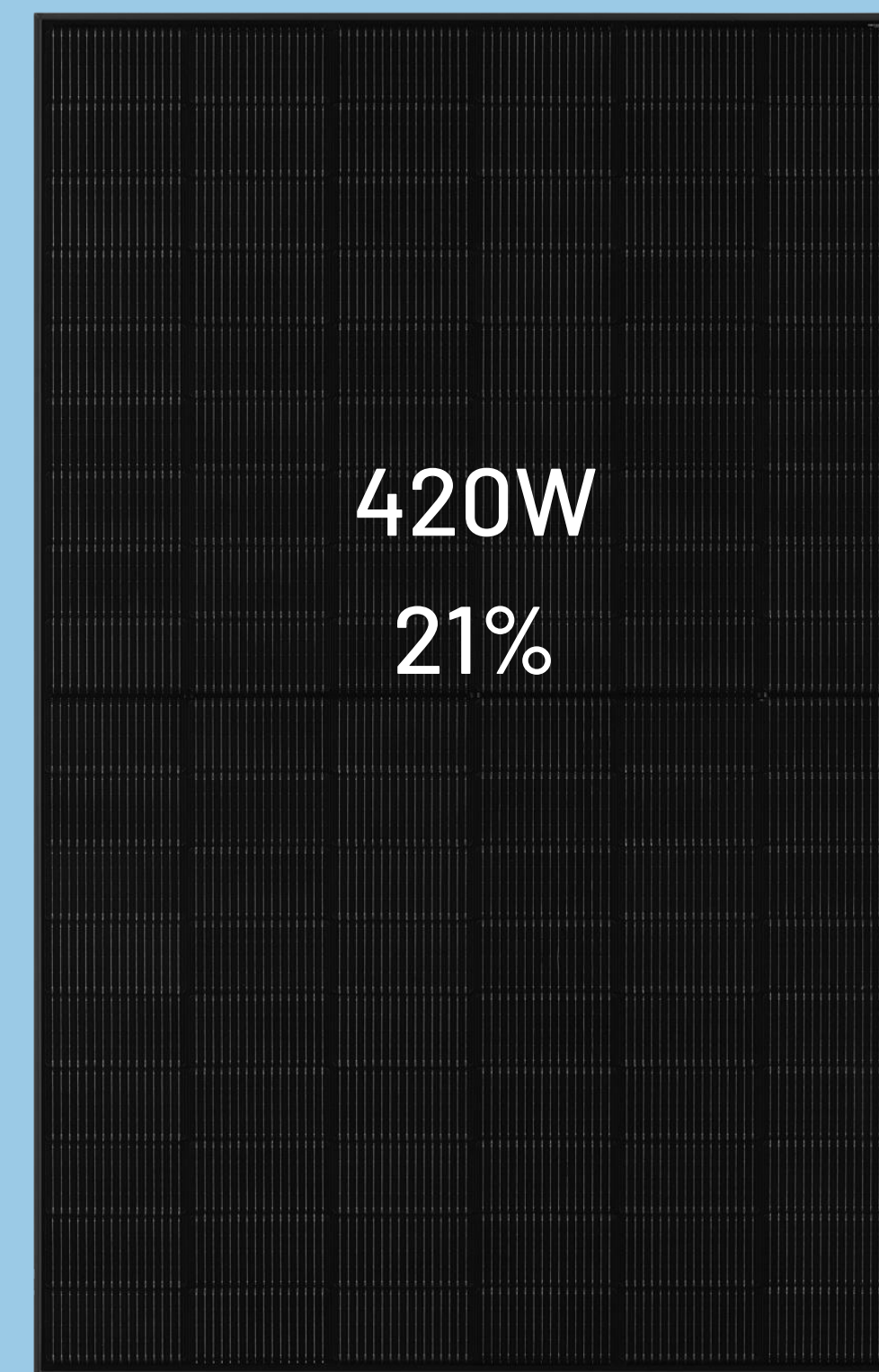


425W
21.3%

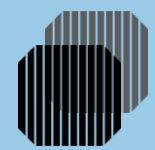
1762×1134mm

JAM54S31/LR

FULL BLACK



420W
21%



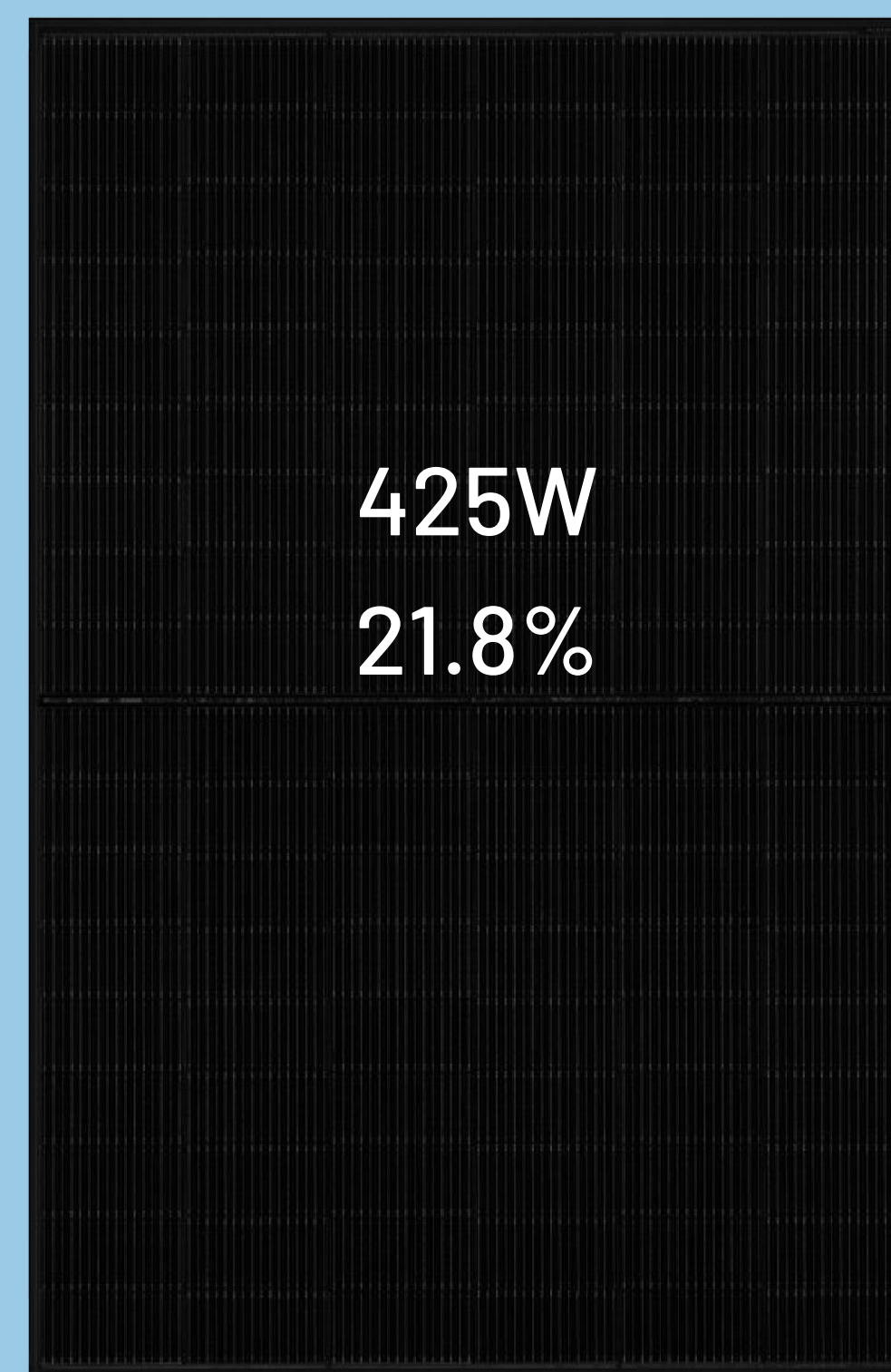
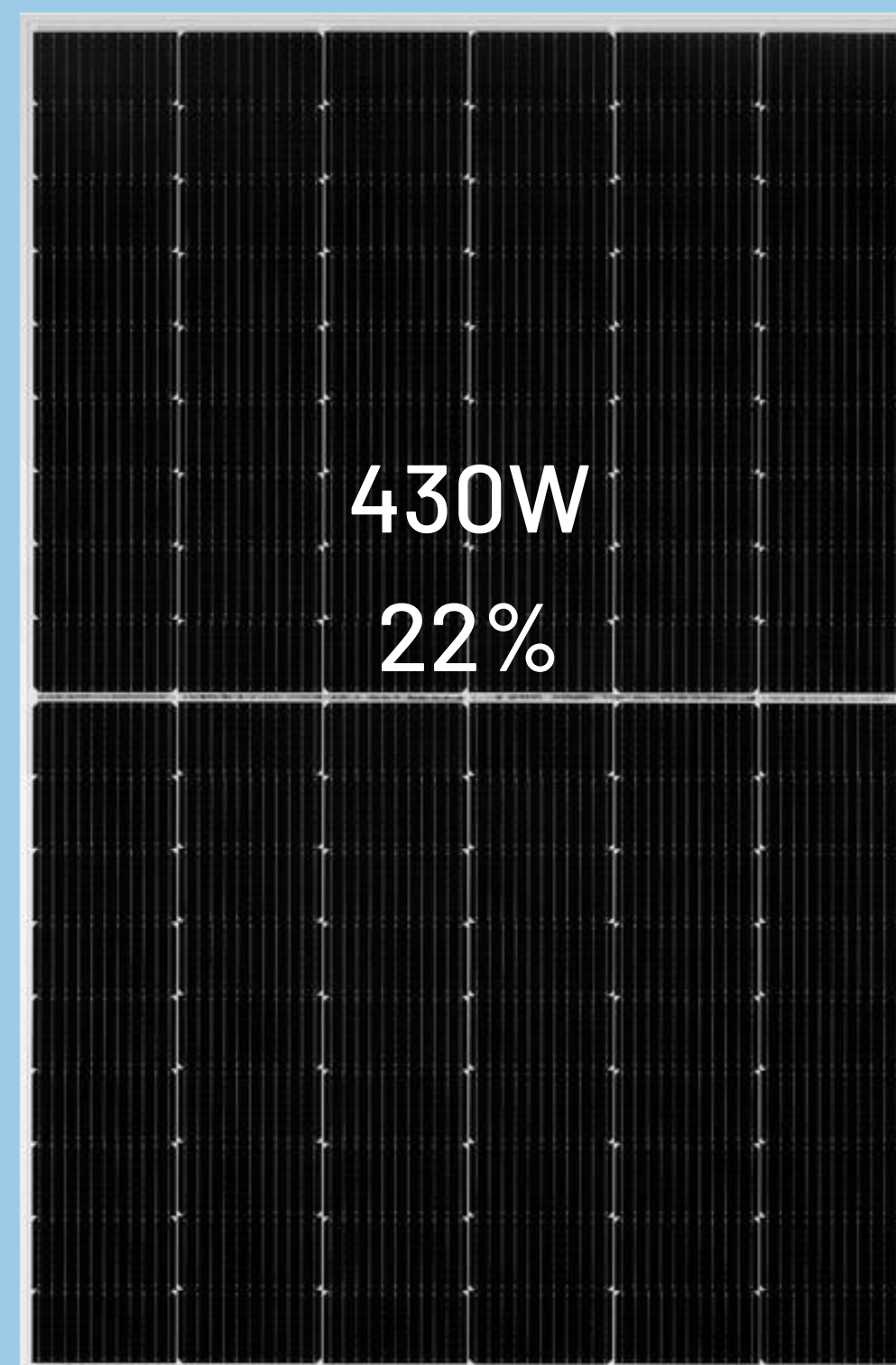
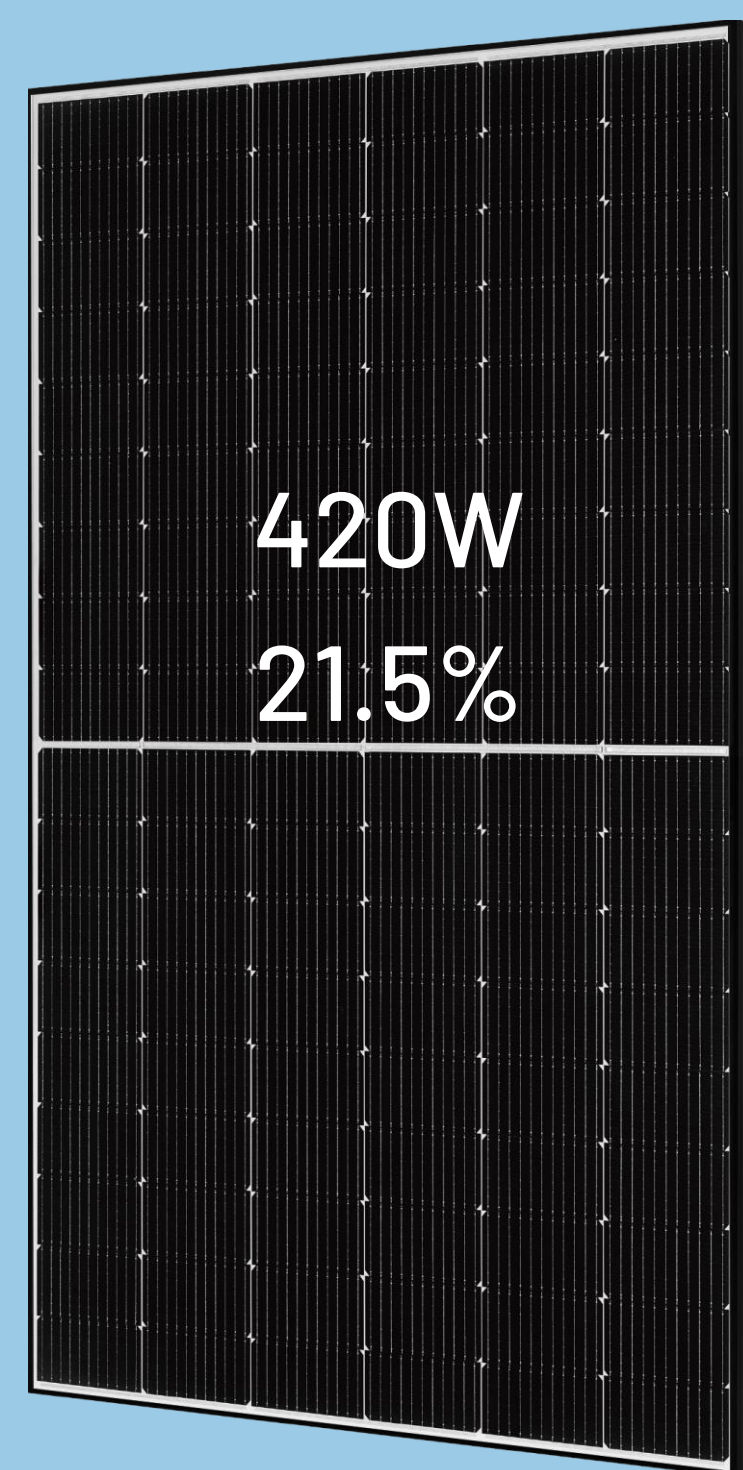
ROOFTOP PRODUCTS / PERC AND TOPCON

JAM54S30/GR

JAM54S31/GR

JAM54D40/GB

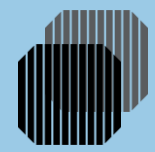
JAM54D41/GB



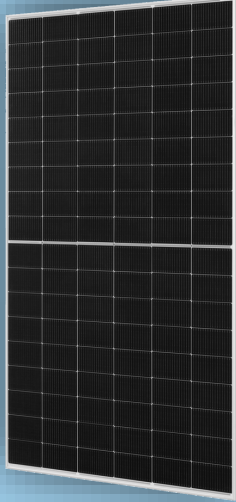
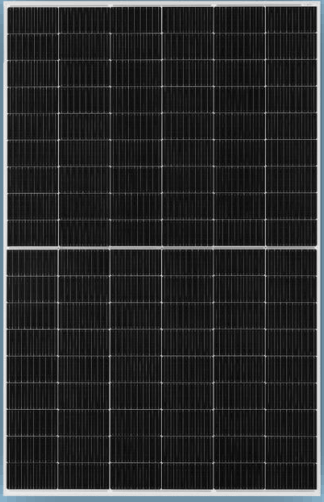

1722×1134mm

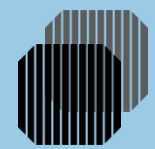
MONOFACIAL, PERC

BIFACIAL, TOPCON

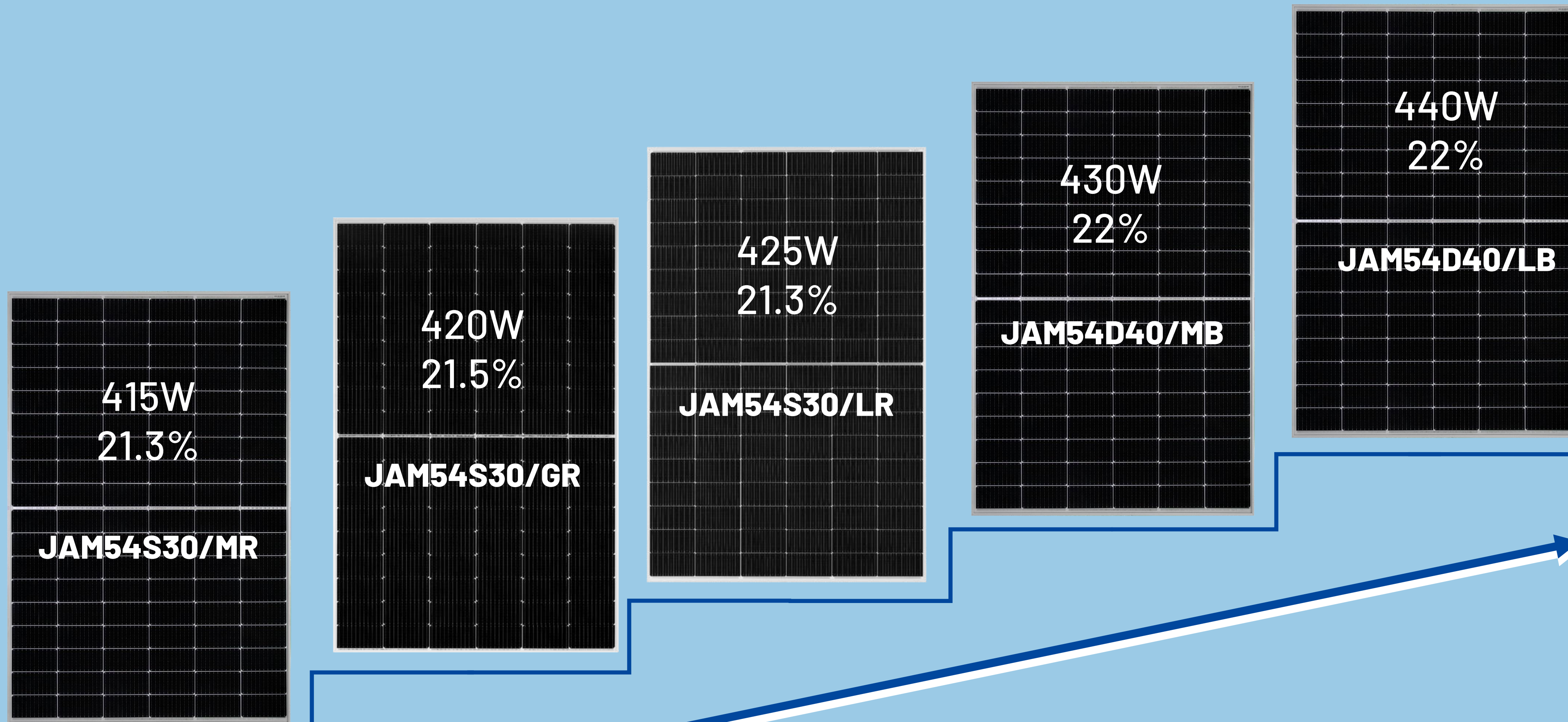


KEY FEATURES

	JAM54D40/LB	JAM54S30/LR	JAM54S30/MR
			
	<ul style="list-style-type: none"> • Monocrystalline • Double glass • Retangular cells, small cell gap, bifacial • Silver / black frame 	<ul style="list-style-type: none"> • Monocrystalline • Single glass • Retangular cells, small cell gap, monofacial • Silver frame 	<ul style="list-style-type: none"> • Monocrystalline • Single glass • Square cells, regular cell gap, bifacial • Silver frame
Module dimension (mm)	1762 x 1134		1722 x 1134
Current main power class (Wp)	440	425	415
String layout	Vertical, 2 rows		
Module quantity / String 1000V	30±1	31±1	
Weight (kg)	22	20	19.5
Numbers of modules in one container (pcs)	936		
Power per container (kW)	411.84	395.8	388.44



POWER PERFORMANCE



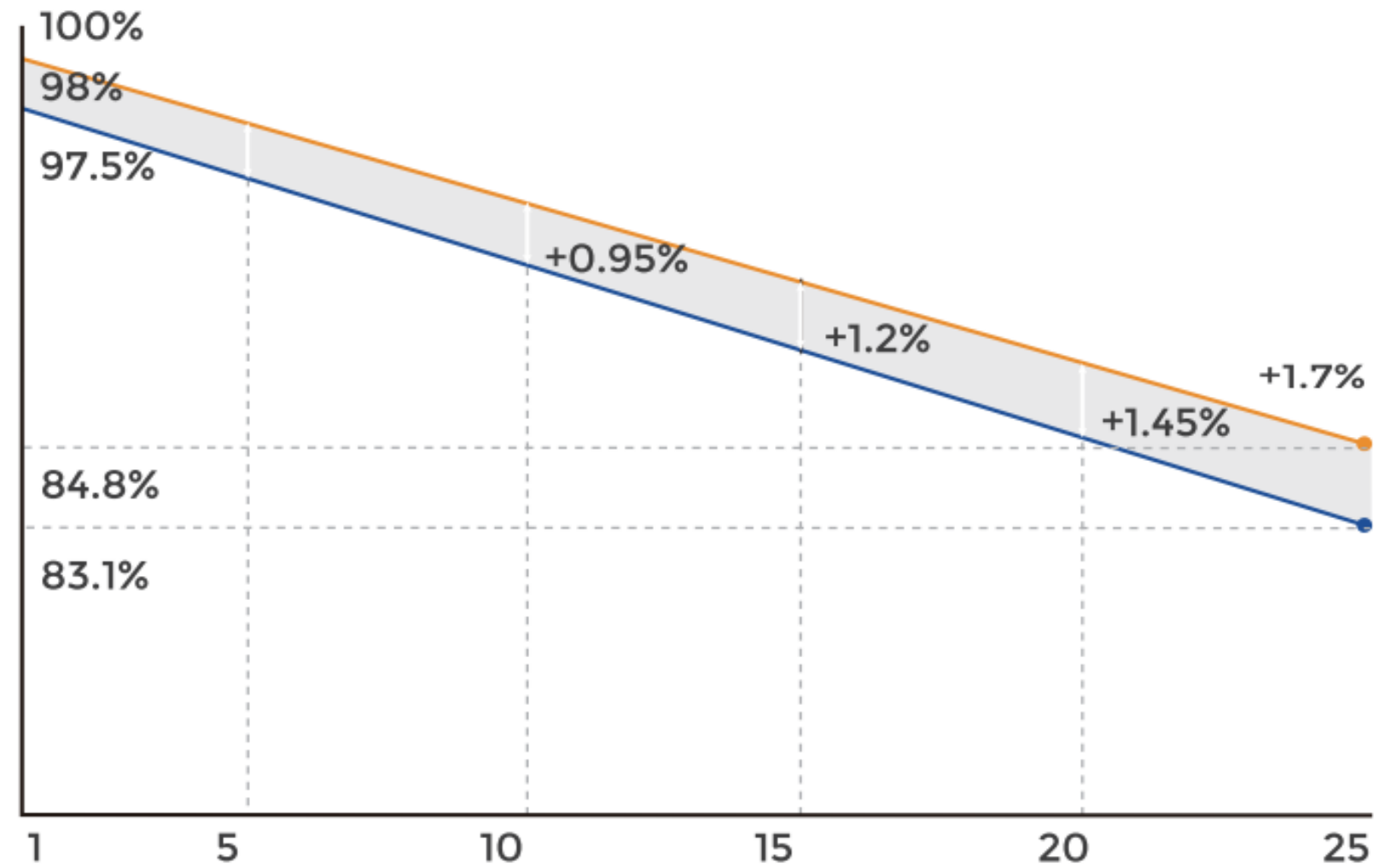
POWER PERFORMANCE KEEPS IMPROVING.



LOWER DEGRADATION BUT LONGER WARRANTY

PERC MODULE

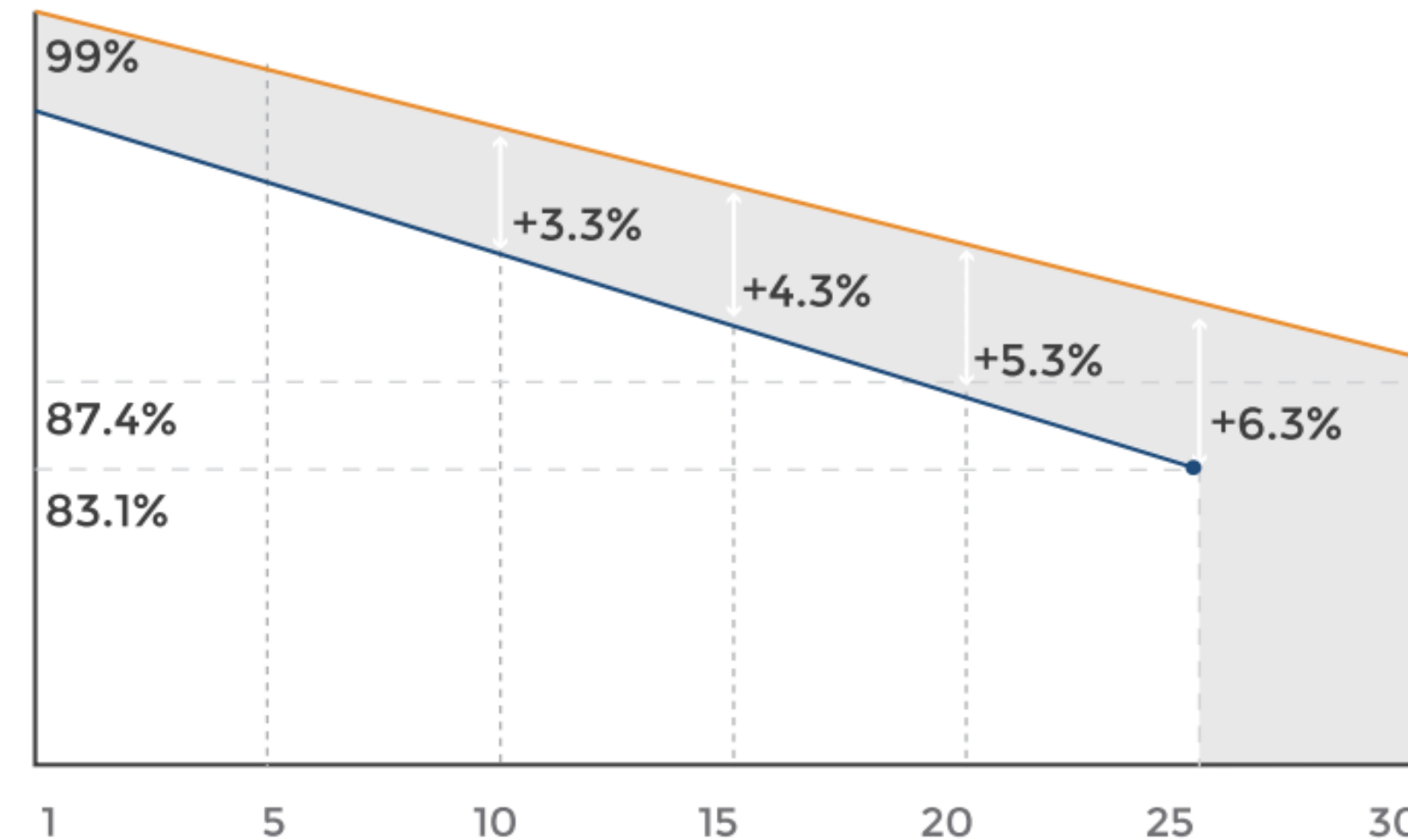
- Degradation 1st year 0 ≤ 2%
- Annual degradation is 0,55% per year, After the 1st year



- New linear power warranty
- Standard module linear power warranty

N-TYPE (TOPCON) MODULE

- Degradation 1st year 0 ≤ 1%
- Annual degradation is 0,4% per year, After the 1st year
- 25-year product warranty



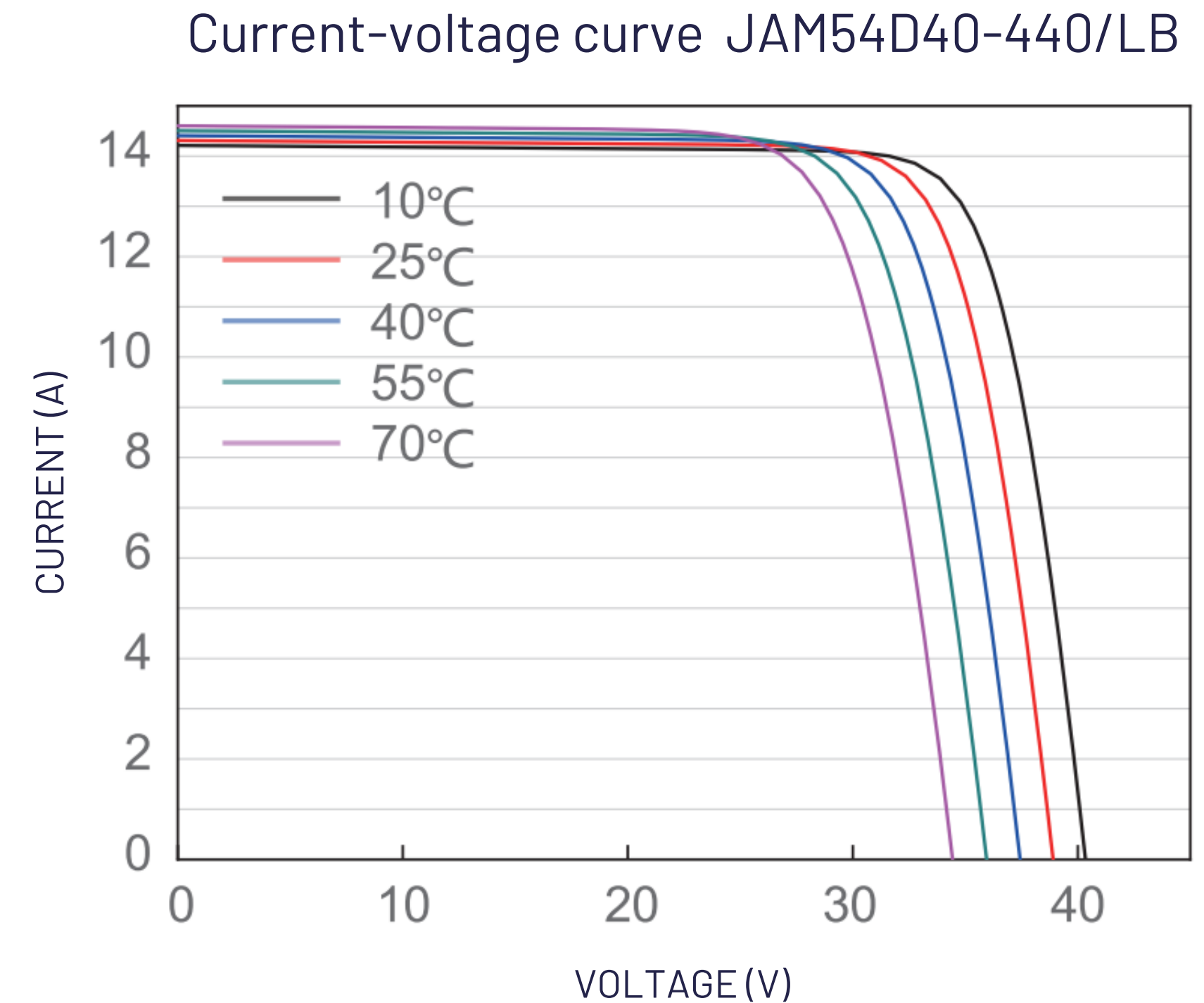
- N-Type bifacial double glass module linear performance warranty
- Standard module linear performance warranty

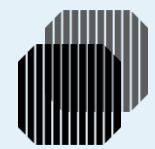


STABLE PERFORMANCE IN TEMPERATURE FLUCTUATIONS

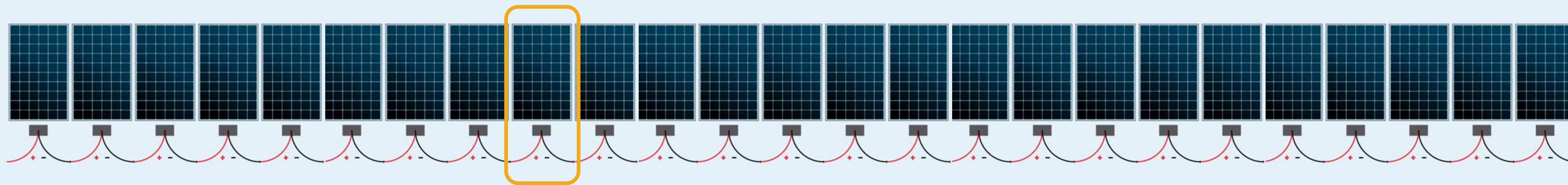
- The influence of temperature fluctuations on the module power generation is insignificant
- When the temperature increases from 25°C to 35°C, the voltage would only be 1V lower

TEMPERATURE COEFFICIENT	N-TYPE	P-TYPE
Temperature coefficient of Isc (α_{Isc})	+0.046%/°C	+0.045%/°C
Temperature coefficient of Voc (β_{Voc})	- 0.260%/°C	- 0.275%/°C
Temperature coefficient of Pmax (γ_{Pmp})	- 0.300%/°C	- 0.350%/°C



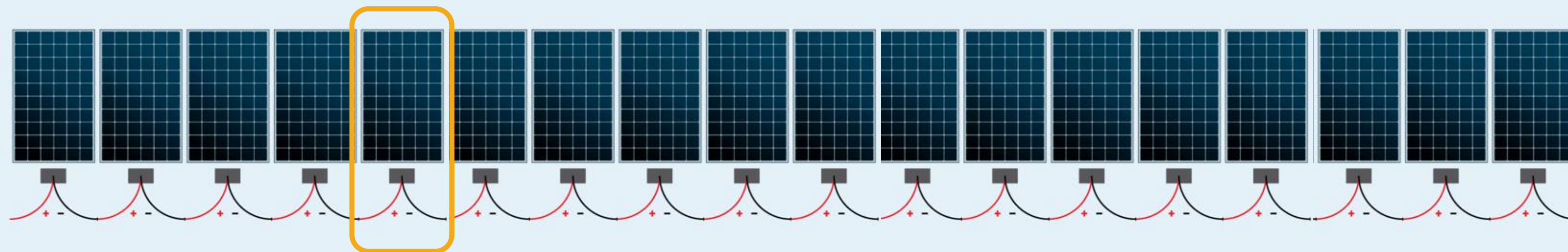


LOWER VOLTAGE ALLOWS LONGER STRINGS

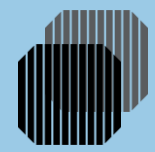


JA 54C panel with 33V

30% more panels in a 1000V string

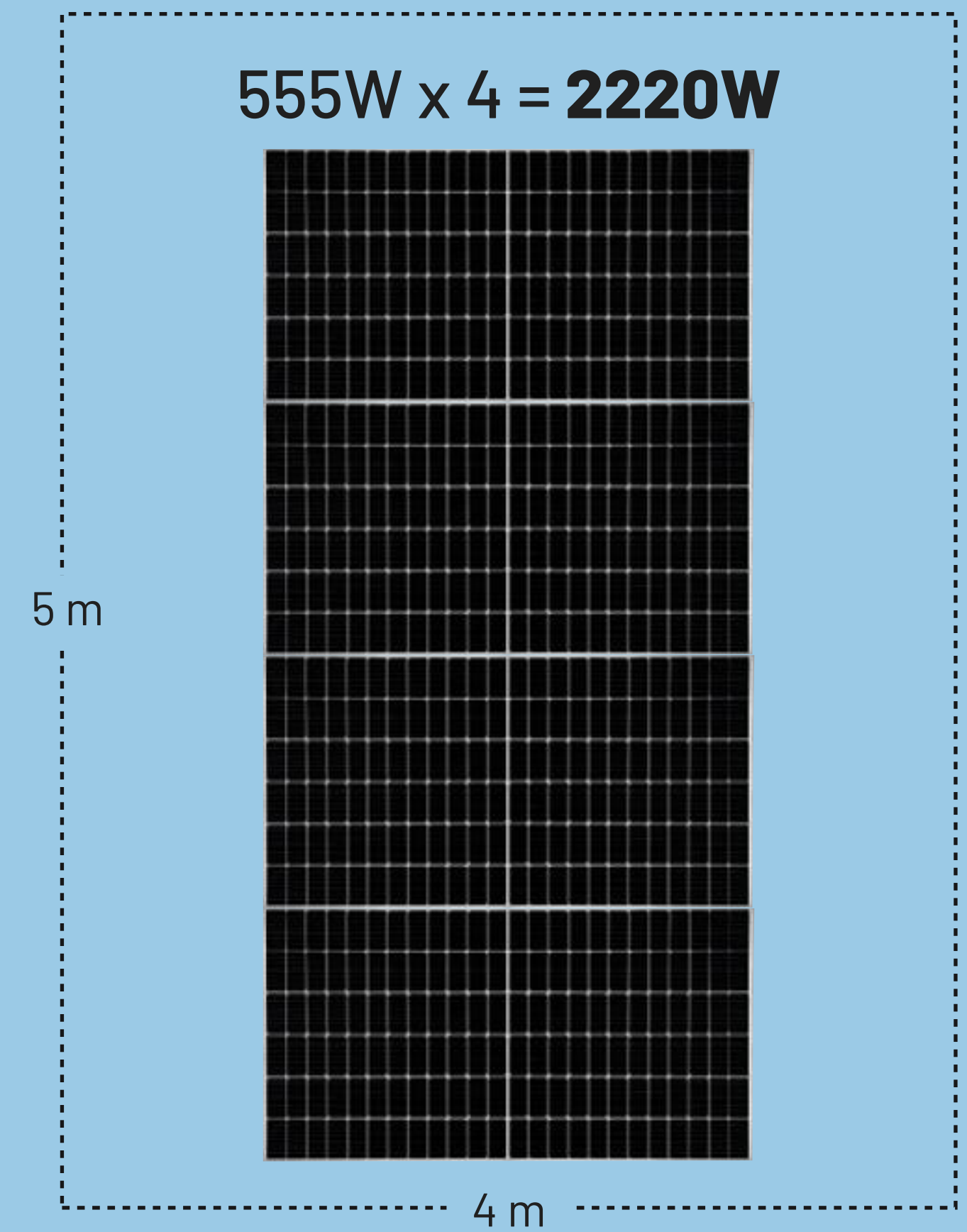
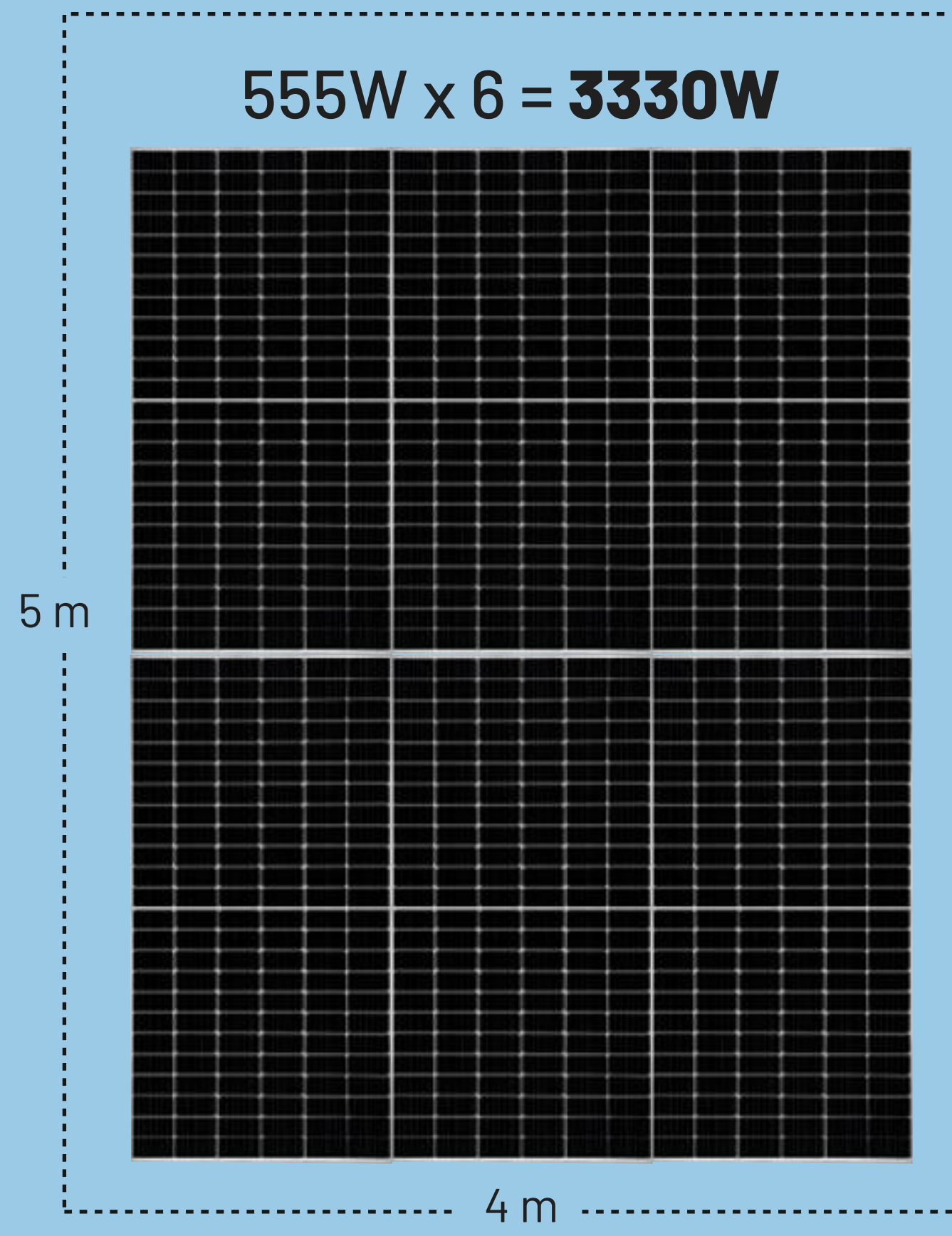
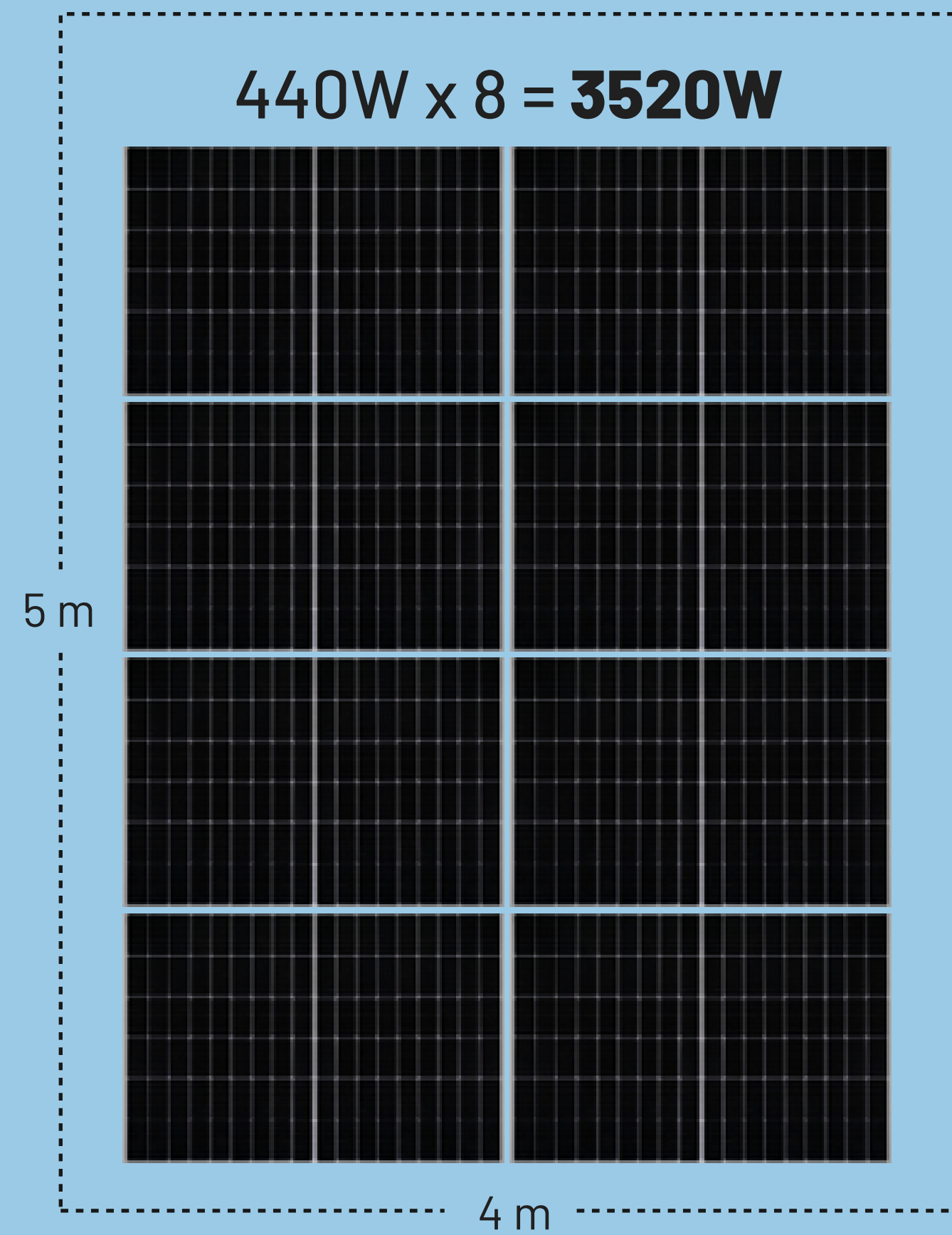
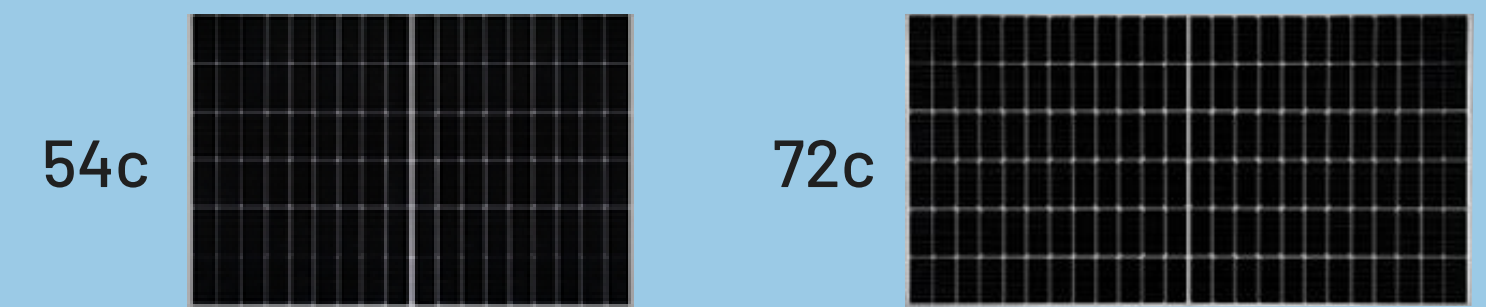


Panel with voltage of 44V



LEVERAGE THE SPACE

ROOF = 20M²

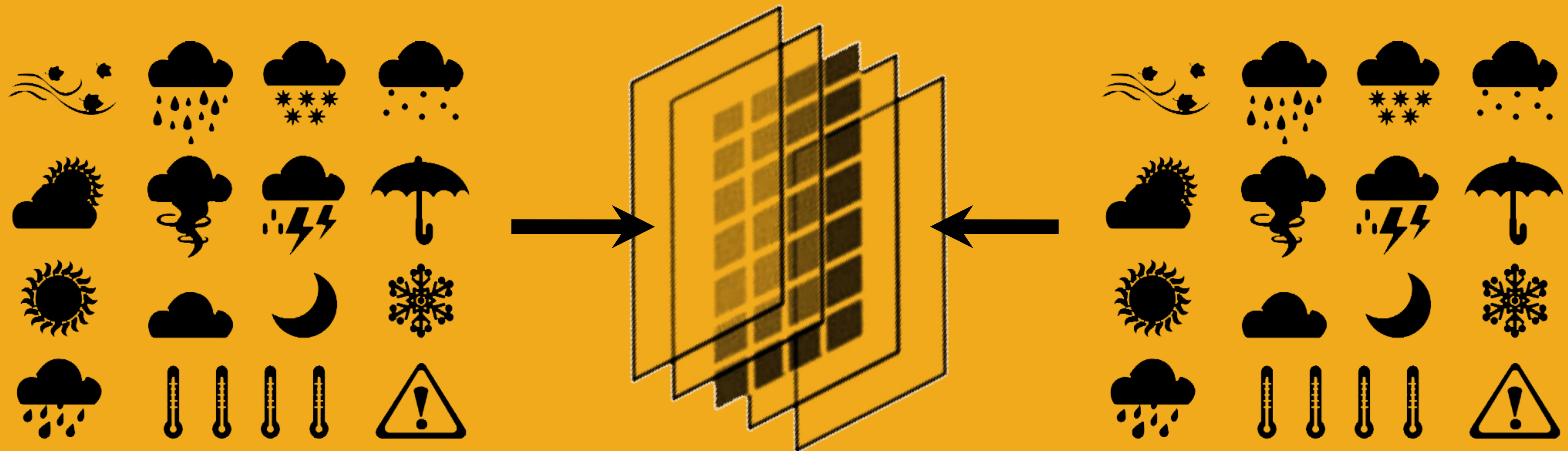




DOUBLE GLASS, DOUBLE SECURE

JA OFFERS DOUBLE-GLASS BIFACIAL ROOFTOP MODULES THAT CAN:

1. protect the solar panel cells from dust, moisture, hail, and other environmental factors;
2. lower the risk of posing a fire hazard if the glass encounters electrical wires or sparks;
3. being more durable and stable than foil sheets, which means it can last longer and require less maintenance.



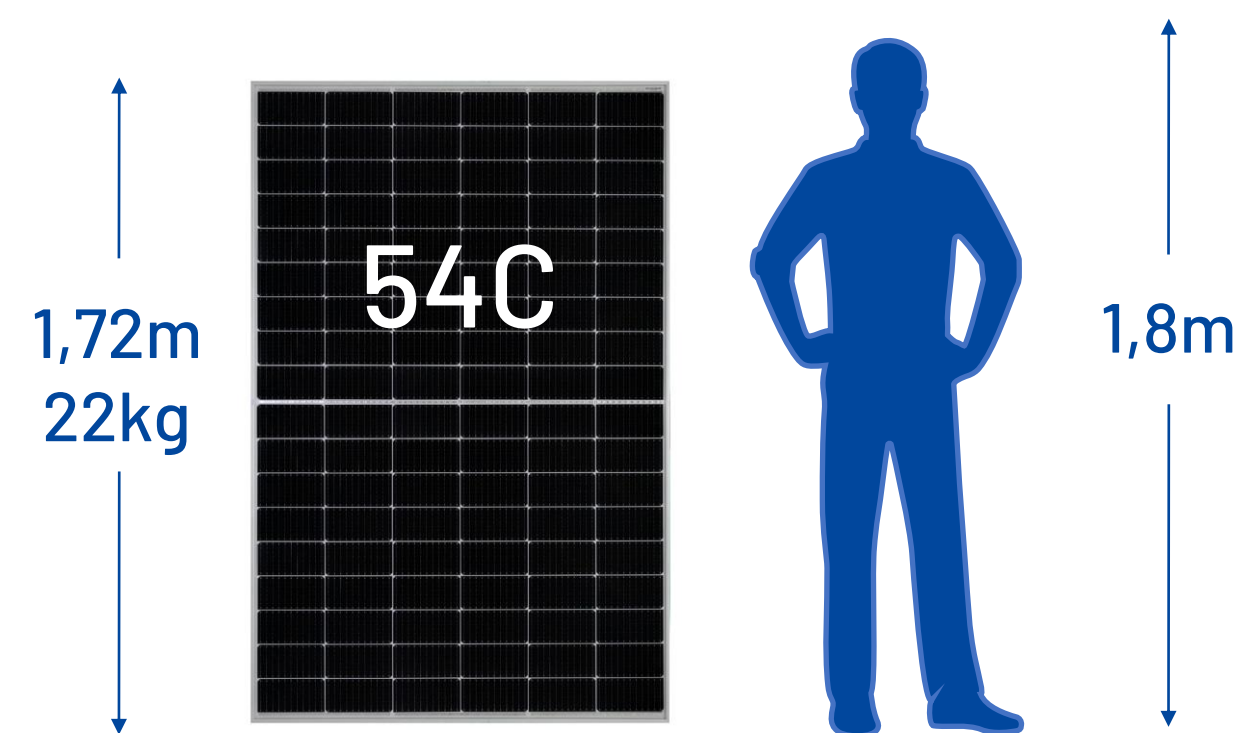
An aerial photograph showing several rows of solar panels installed on a lush green field. The panels are arranged in a grid pattern, and the surrounding landscape is vibrant green with some trees visible in the distance. The sky is a clear, bright blue.

**PART
03**

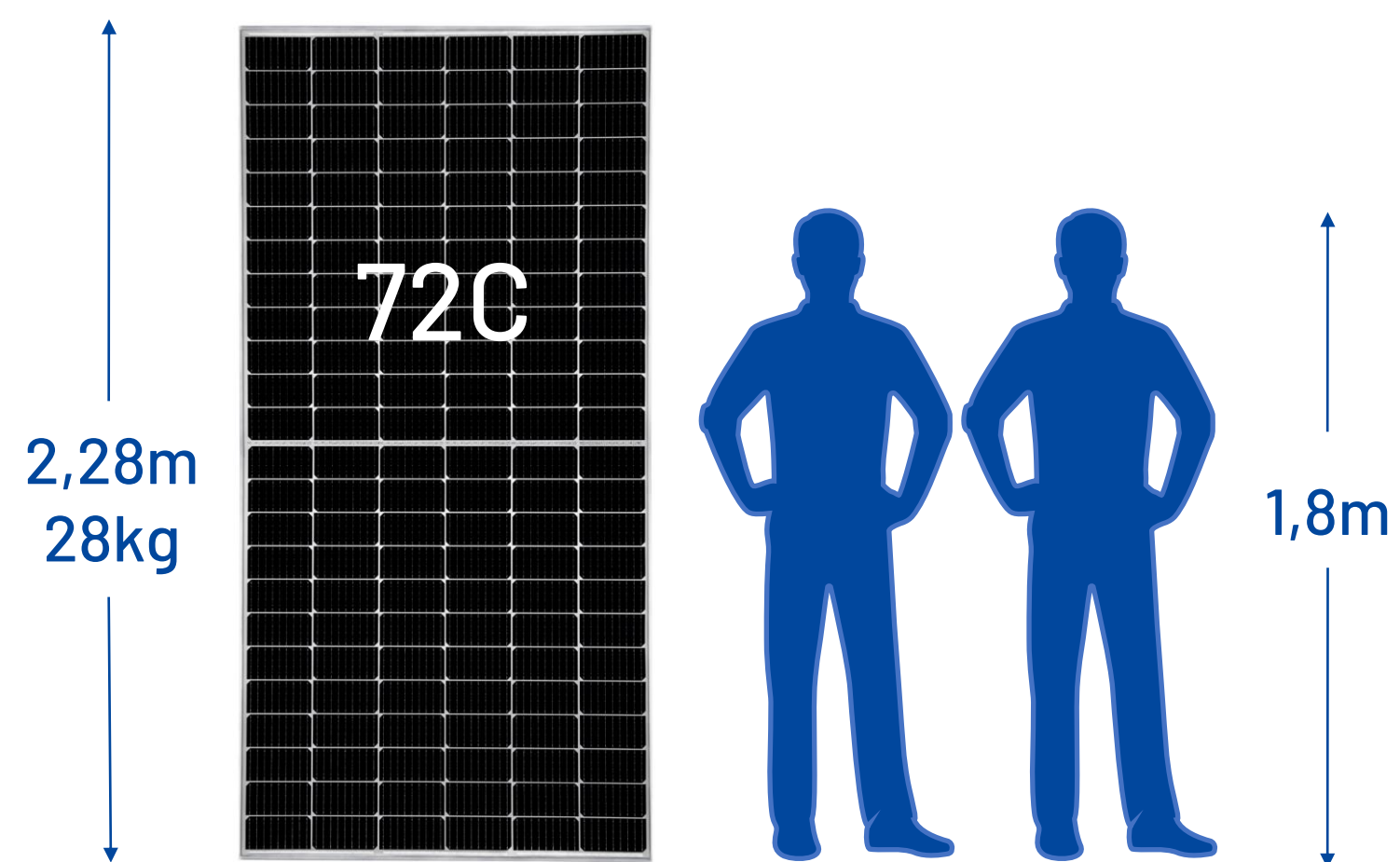
SIMPLICITY OF INSTALLATION



LOWER DEGRADATION BUT LONGER WARRANTY



ONE INSTALLER CAN
CARRY ONE PIECE.

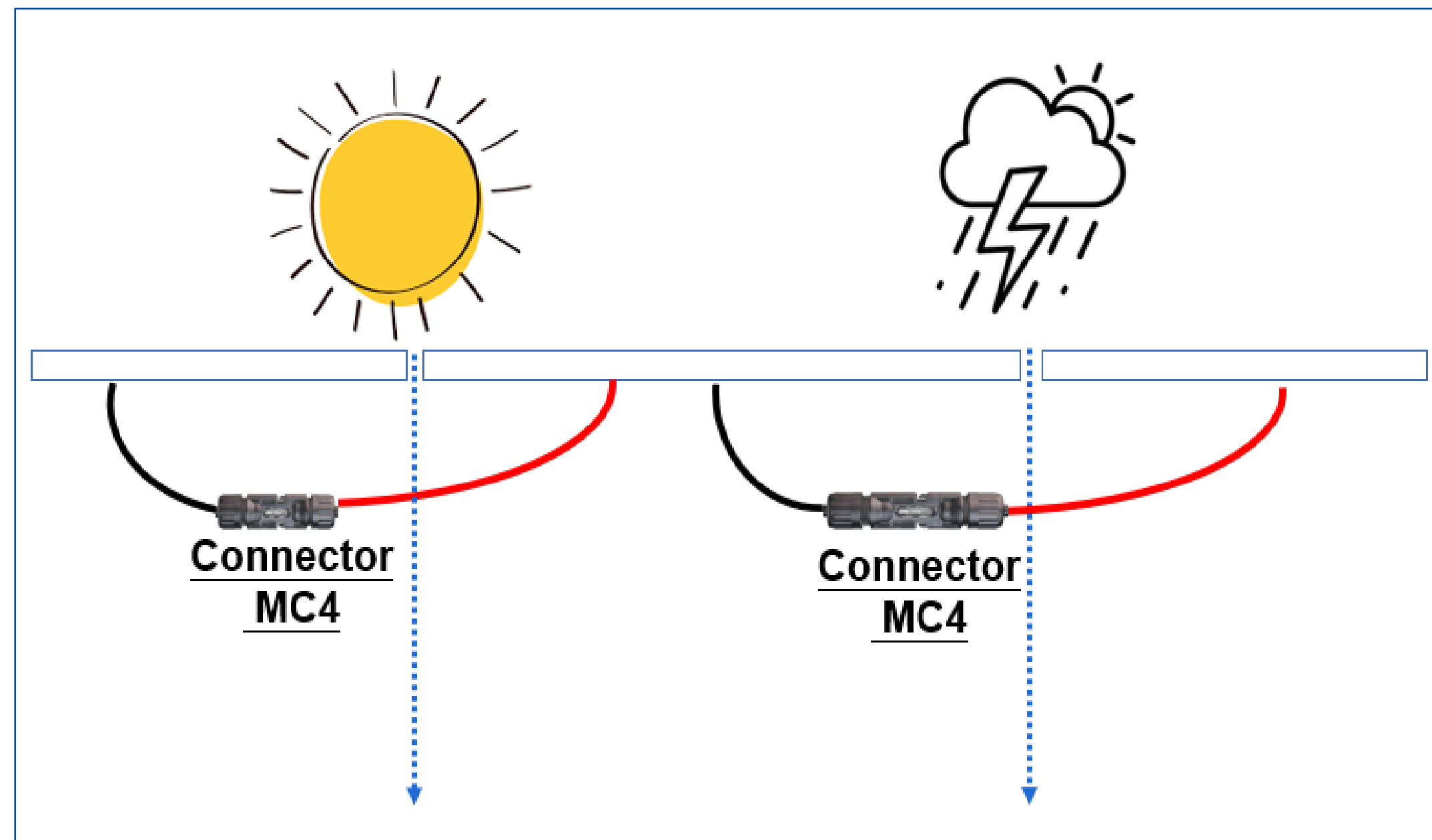


TWO INSTALLERS CAN
CARRY ONE PIECE.



LOWER RISK OF AGING BY SUN OR RAIN

- **JA offers different length of cables**
- The flexible connection choices would lower the risk of aging by sun or rain through the gap.





FITS PERFECTLY WITH 20+ INSTALLATION KITS

- There are more than 20 ways approved by JA Solar to install the modules to any rooftop
- The mechanical (test) loads vary according to the installation planning

<p>Inner four holes</p>	<p>Inner four holes, mounting rails cross the long frame</p>	<p>400mm</p>	<p>Short side clamping with 4 clamps no cross beam</p>	<p>6 clamps installed at long sides cross beam is perpendicular to long frame</p>
<p>Module length L</p> <p>Mounting by clamps, mounting rails parallel the long frame.</p>	<p>Module length L</p> <p>Mounting by clamps, mounting rails cross the long frame.</p>	<p>4 clamps installed at short sides cross beam parallel to short sides</p>	<p>Short side clamped with 4 clamps Long side clamped with 2 clamps no cross beam</p>	<p>4 clamps installed at short sides cross beam parallel to long sides</p>
<p>Outer four holes</p> <p>Outer four holes, mounting rails parallel the long frame</p>	<p>Outer four holes, mounting rails cross the long frame</p>	<p>4 clamps installed at long sides cross beam parallel to long sides</p>	<p>Long side clamped with 6 clamps no cross beam</p>	<p>Long side clamped with 4 clamps no cross beam</p>

A photograph of a rooftop solar panel array. The panels are dark with a grid pattern, mounted on a metal structure. In the foreground, several stalks of dried, golden-brown grasses are in focus, partially obscuring the panels. The background is a blurred, warm-toned scene, possibly a building or landscape. The overall lighting is soft and golden, suggesting late afternoon or early morning.

**PART
04**

**ROOFTOP
PROJECTS**



DOUBLE GLASS, DOUBLE SECURE



MERCEDES-BENZ 4S SHOP MALAYSIA

Location: Selangor, Malaysia

Capacity: 1.5MW

Project: C&I rooftop PV plant

Time: 2022



MIRASSOL FOOTBALL CLUB

Location: Sao Paulo, Brazil

Capacity: 97kW

Project: C&I rooftop PV plant

Time: 2021



A PRIVATE HOUSE ROOF CURACAO

Location: Curacao

Capacity: 16kW

Project: Residential rooftop

Time: 2020



A FARM SOUVENIR SHOP DEVON, UK

Location: Devon, UK

Capacity: 400kW

Project: Residential rooftop PV plant

Time: 2019

THANK YOU