

**KAISAI**



# **PV MODULES**

**FOR YOUR HOME AND OFFICE**

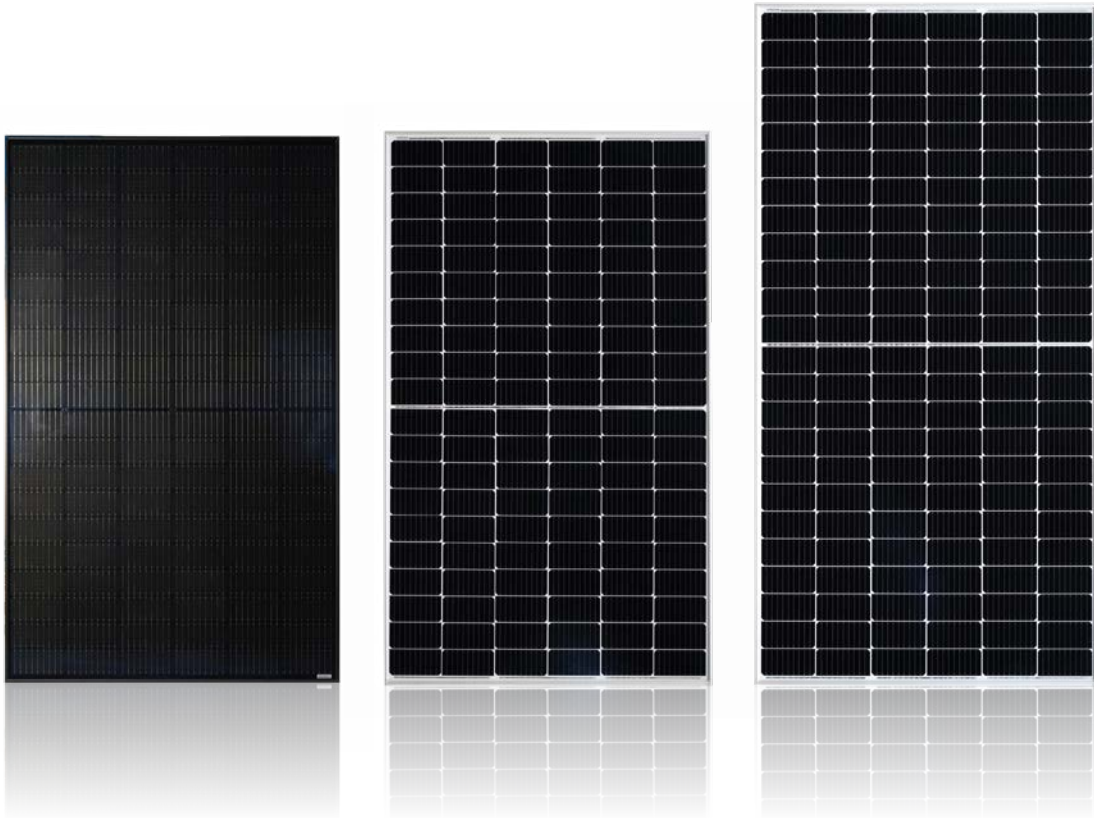
HIpower

FullBLACK





**WE  
CARE  
ABOUT  
AIR**



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## Photovoltaic modules for your home and office

Kaisai units are high quality, environmental-friendly products, designed with the operation comfort in mind. Moreover, we offer them at reasonable prices.

The Kaisai brand debuted on the Polish market in 2011 and since then, year after year, it has been recording growing sales figures in Poland as well as on foreign markets. The latest technological solutions make Kaisai devices leaders in their class and meet high expectations in terms of ecology, safety, energy efficiency, quiet operation,

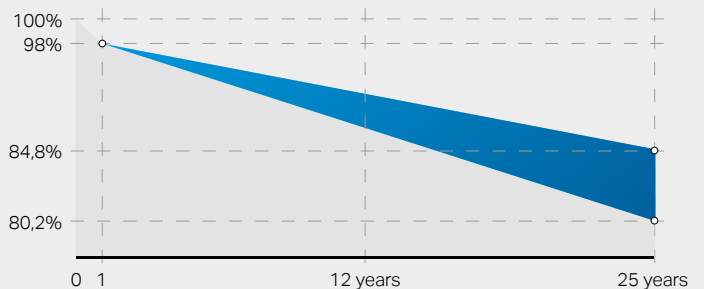
comfort of use and manufacturer's warranty. Through many years of investment in technology, the Kaisai units have been recognized as some of the most innovative air-conditioning solutions, successfully implemented in public facilities and residential buildings.



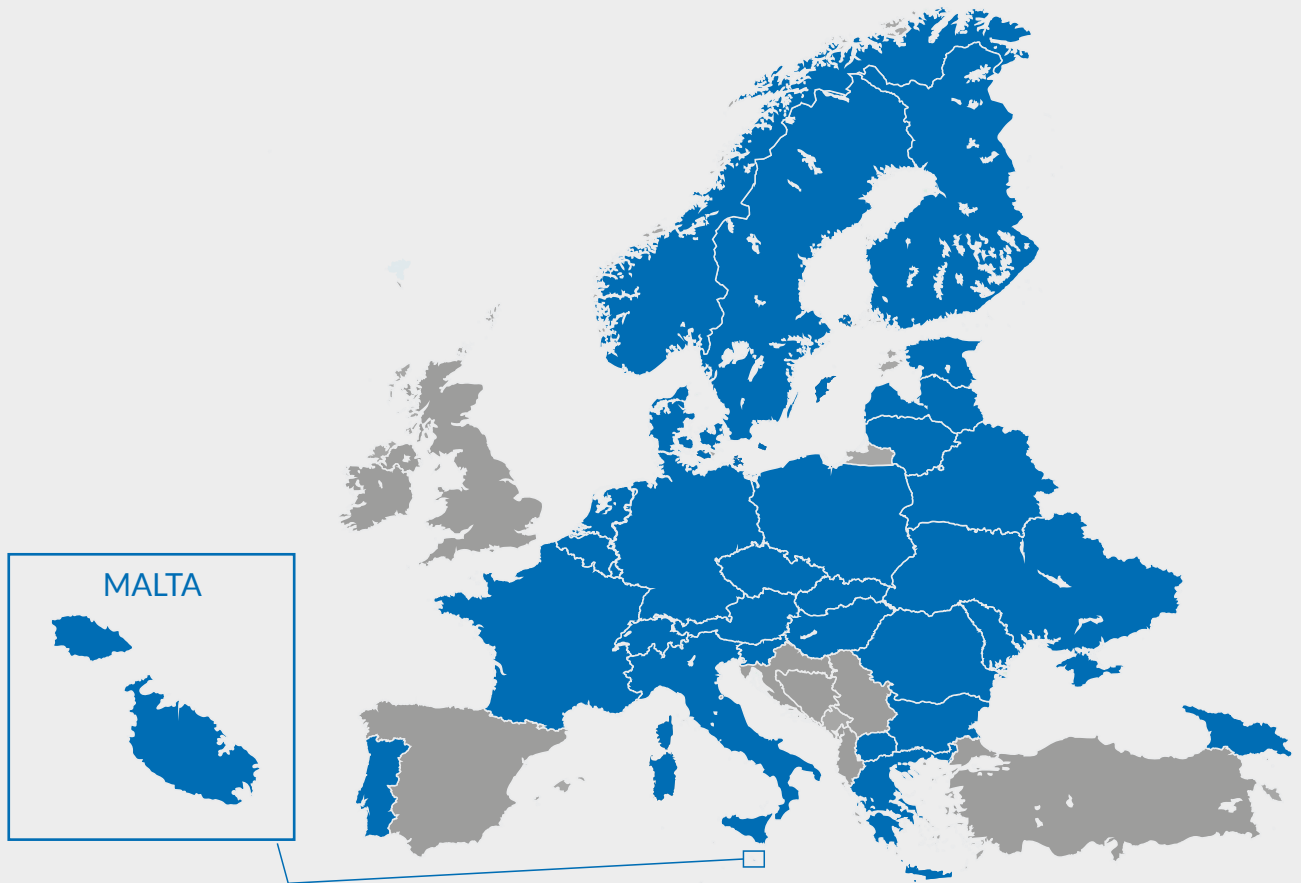
### 25 YEARS OF PERFORMANCE 12 years on the product

**Guaranteed efficiency of 98% in the first year; from the second year to the twenty-fifth year 0.55% maximum decrease from the module nominal output per year.** After 25 years, 84.8% cell efficiency from the warranty start date.

The graph shows the difference between the competitor's averaged proposal and Kaisai's guarantee.







**Within the business platform of Kaisai International Corporation, following the principle of Think globally - work locally, the Kaisai brand is present in the following countries:**

Austria, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Georgia, Iceland, Italy, Latvia, Lithuania, Luxembourg, North Macedonia, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine.

# WE CARE ABOUT AIR

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The motto **"We Care about Air"** derives from passion and understanding of human needs and is a declaration of responsibility for people and the environment. Our focus is on the quality and comfort of air – in the office, at home and in all rooms where people are present. Our values: respect for the environment, partnership with the Client, responsibility for the Employee, taking care of the business environment.

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# WHY BET ON RENEWABLE ENERGY SOURCES?

Renewable energy sources (RES) **are based on natural resources**, the acquisition of which provides not only emission-free energy production, but also a whole range of possibilities for its use. Due to relatively easy access to technology and the possibility of using it by both companies and individual households, **the most popular is the energy obtained from the air and the sun.**



## RESISTANCE to wind and snow load

Certified to withstand maximum static front (5400 Pascal) and back (3800 Pascal) test loads.



## EFFICIENCY under weak sunlight conditions

Higher power output in low sunlight conditions such as overcast or foggy weather.



## RESISTANCE to harsh conditions

High quality materials ensure optimum operating conditions for the modules, even in more demanding constructions such as large photovoltaic farms.



## REDUCTION of power losses

Optimizes system output power up to 2% through „intensity sorting” technology, considering variations of this parameter on individual system modules.





## HIGH output power

Compared to a standard module size 1587,5 mm, the output power increases by 30-40 W.



## RESISTANCE to PID degradation

Advanced cell technology and materials of the best quality ensure high resistance to PID.



## UNIQUE cell design

The special cell design allows lower electrode resistance and lower current, improving efficiency. This reduces losses due to partial shading and cell wear, while increasing solar energy conversion capacity.

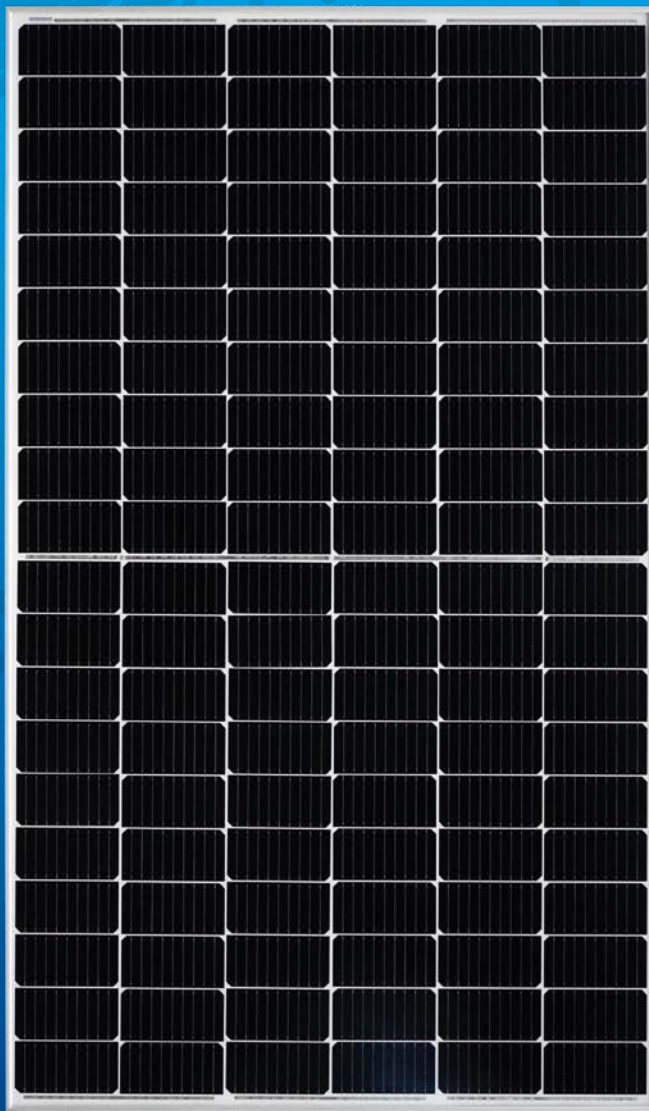


## HIGHEST CLASS waterproof junction box

IP68 protection present in the module provides the highest resistance to weather conditions. Allows panels to be installed in all orientations and reduces stress on the cables. Low resistance high reliability connectors ensure maximum efficiency with highest energy production.







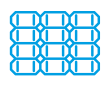
SERIES **HI**Power

370 W



# KEY FEATURES

## HiPower 370 W series



- ✓ Modules with above average energy efficiency, **ideal for smaller projects with high energy consumption**

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- ✓ **Fully certified** by the accredited independent VDE Institute guaranteeing compliance with international quality standards (ISO 9001, ISO 14001, ISO 17025)

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- ✓ **High performance of modules** in difficult conditions confirmed by tests for resistance to salt, sand, and ammonium corrosion

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- ✓ Module properties adjusted **to European climate conditions and legal regulations**

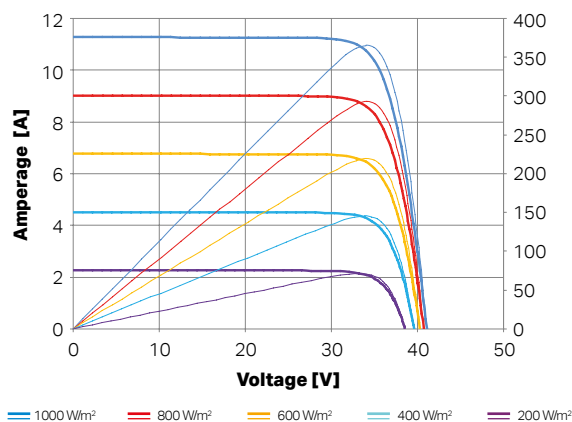
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- ✓ **Lightweight and durable construction, easy and versatile installation** both on the roof and on the ground

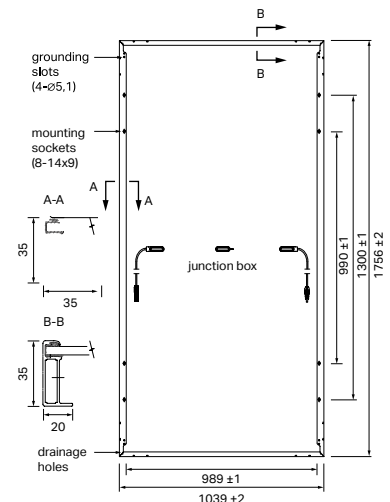
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- ✓ **25-year performance** guarantee

### CURRENT VOLTAGE CURVE (370S)



### DIMENSIONS HiPower 370 W series



# TECHNICAL SPECIFICATIONS

## HiPower 370W Series



### Electrical parameters

STPXXXS-B60/Wnh	
<b>STC</b>	
Maximum power in SWT (Pmax)	370 W
Optimum operating voltage (Vmp)	34,3 V
Optimum operating current (Imp)	10,79 A
Idle voltage (Voc)	40,9 V
Short-circuit current (Isc)	11,49 A
Module efficiency	20,3 %
Module operating temperature	-40 °C do +85 °C
Maximum parameters of series fuses	1000 /1500 V
<b>NMOT</b>	
Maximum power in ZTRM (Pmax)	278,2 W
Optimum operating voltage (Vmp)	32,0 V
Optimum operating current (Imp)	8,69 A
Idle voltage (Voc)	38,7 V
Power tolerance	9,17 A

### Temperature parameters

Nominal operating temperature of module (NMOT)	42 ± 2 °C
Temperature coefficient Pmax	-0,36% / °C
Temperature coefficient Voc	-0,304% / °C
Temperature coefficient Isc	0,050% / °C

### Mechanical parameters

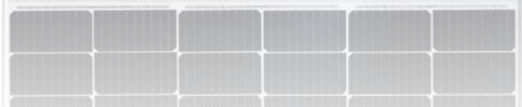
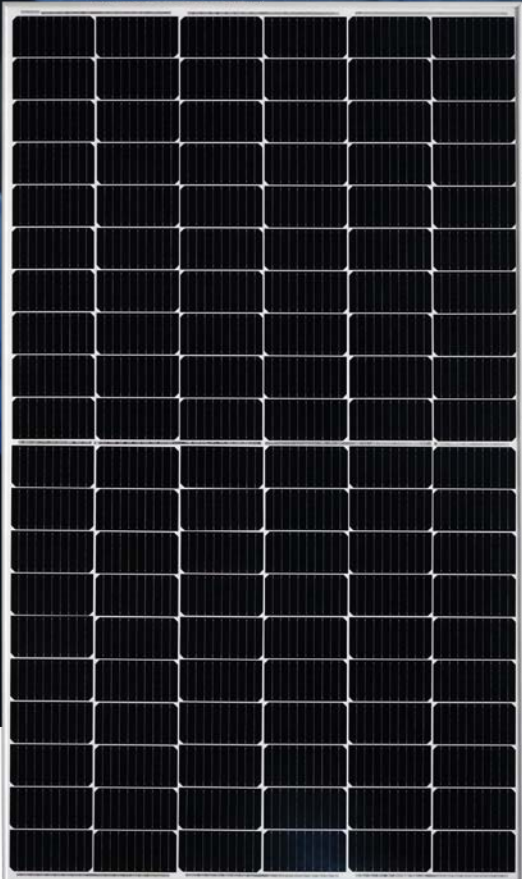
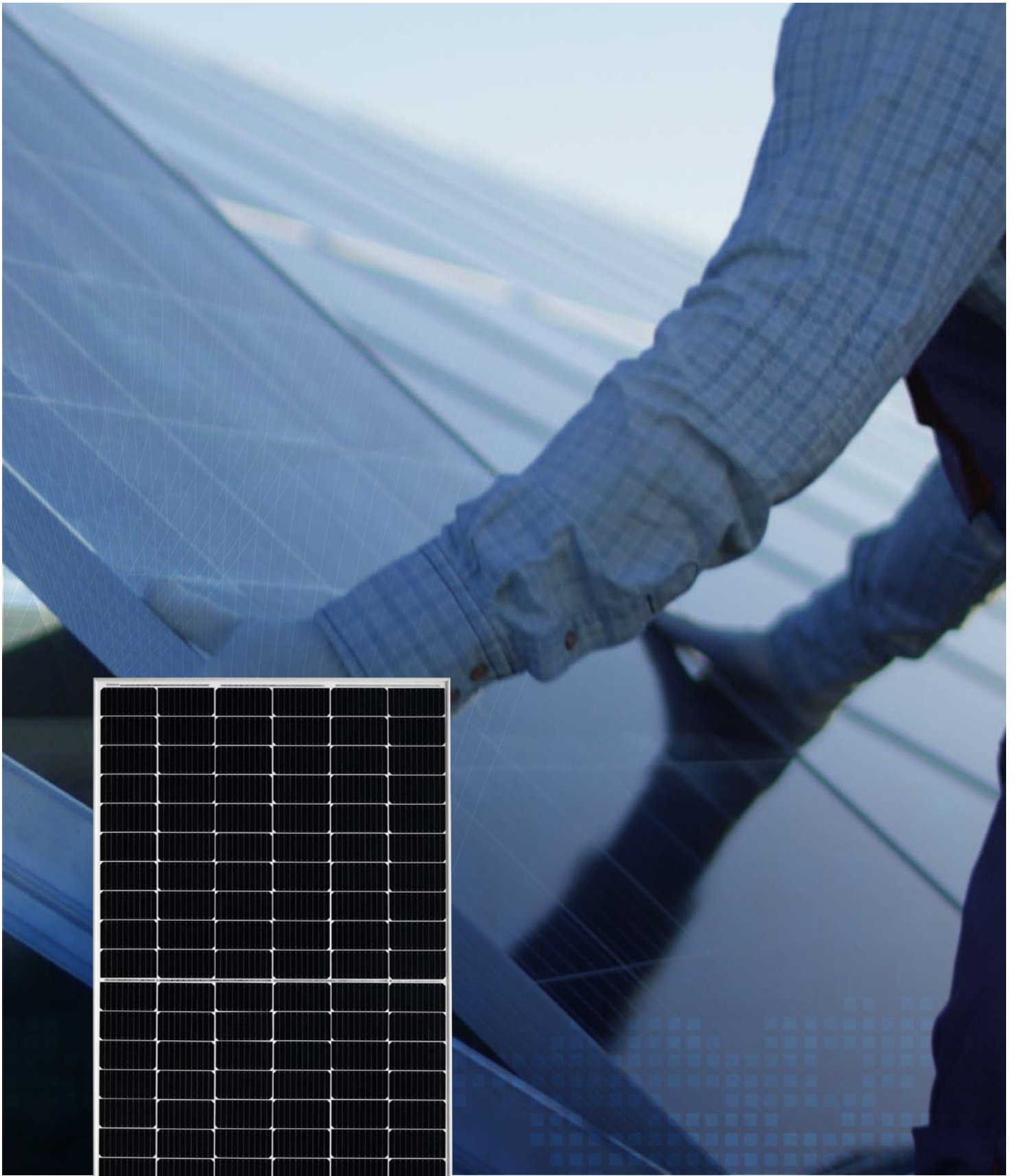
Solar cell	Monocrystalline silicon 166 mm
Number of cells	120 (6 × 20)
Dimensions	1756 × 1039 × 35 mm (69,1 × 40,9 × 1,4 cali)
Weight	20,3 kg (44,8 lbs.)
Front screen	3,2 mm (0,13 inch) tempered glass
Frame	Anodized aluminum alloy
Junction box	Protection class IP68 (3 bypass-diodes)
Output wires	4,0 mm <sup>2</sup> Vertical: (-) 350 mm i (+) 160 mm Horizontal: (-)1200 mm and (+)1200 mm or custom length
Connectors	MC4 EVO2, cable 01S

### Packaging configuration

Package dimensions	1786 × 1130 × 1203 mm
Package weight	679 kg

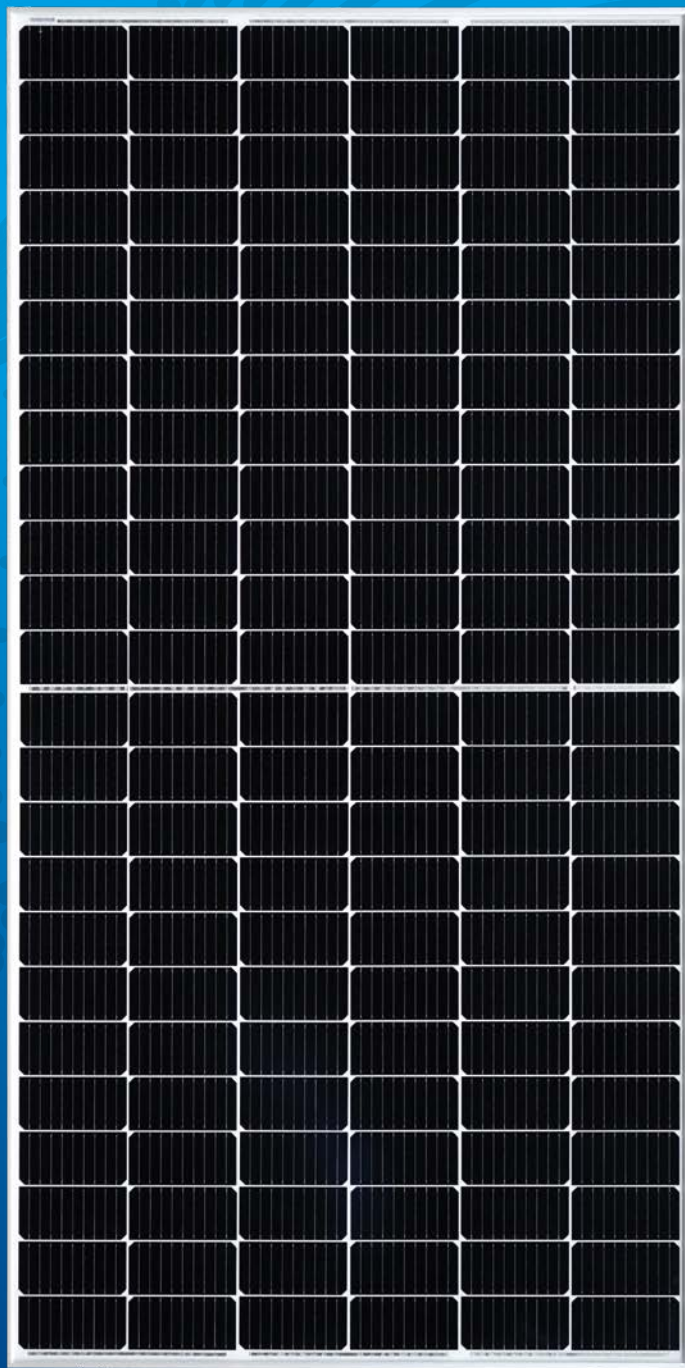
\* WEEE compliant version for EU market.

\*\* Kaisai reserves the right to the final interpretation of the Munich Re warranty.



SERIES **HI**Power



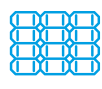


SERIES **HI**Power

445 W

# KEY FEATURES

## HiPower 445 W series



- ✓ Modules with above-average energy efficiency **for larger installations and photovoltaic farms**

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- ✓ **Fully certified** by the accredited independent VDE Institute guaranteeing compliance with international quality standards (ISO 9001, ISO 14001, ISO 17025)

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- ✓ **High performance of modules** in difficult conditions confirmed by tests for resistance to salt, sand, and ammonium corrosion

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- ✓ Module properties adjusted **to European climate conditions and legal regulations**

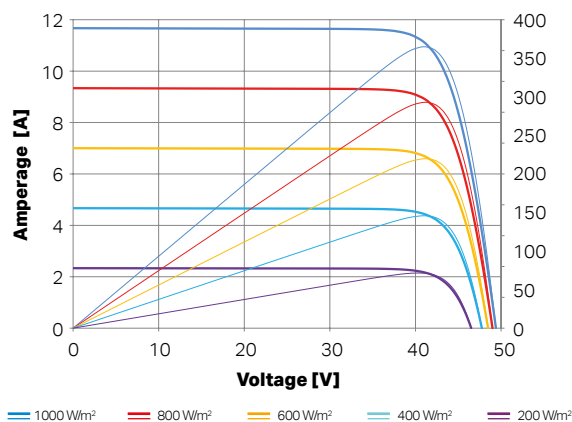
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- ✓ **Lightweight and durable construction, easy and versatile installation** both on the roof and on the ground

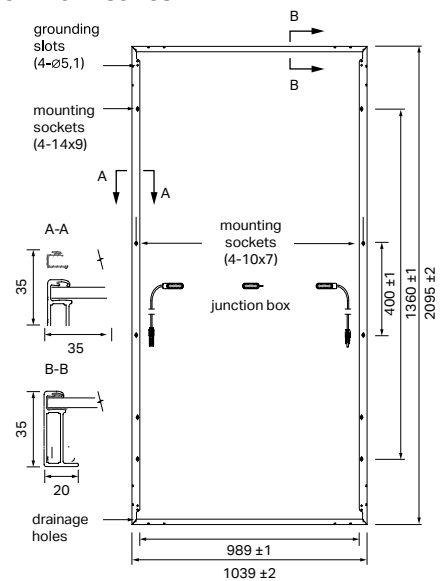
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- ✓ **25-year performance** guarantee

### CURRENT VOLTAGE CURVE (445S)



### DIMENSIONS HiPower 445 W series



\* IEC 61701, IEC 62716, DIN EN 60068-2-68

# TECHNICAL SPECIFICATIONS

## HiPower 445W Series



### Electrical parameters

	STPXXXS-B72/Vnh
<b>STC</b>	
Maximum power in SWT (Pmax)	445 W
Optimum operating voltage (Vmp)	41,2 V
Optimum operating current (Imp)	10,81 A
Idle voltage (Voc)	49,0 V
Short-circuit current (Isc)	11,54 A
Module efficiency	20,4 %
Module operating temperature	-40 °C do +85 °C
Maximum parameters of series fuses	1500 V
<b>NMOT</b>	
Maximum power in ZTRM (Pmax)	335,8 W
Optimum operating voltage (Vmp)	38,0 V
Optimum operating current (Imp)	8,84 A
Idle voltage (Voc)	46,0 V
Power tolerance	9,31 A

### Temperature parameters

Nominal operating temperature of module (NMOT)	42 ± 2 °C
Temperature coefficient Pmax	-0,36% / °C
Temperature coefficient Voc	-0,304% / °C
Temperature coefficient Isc	0,050% / °C

### Mechanical parameters

Solar cell	Monocrystalline silicon 166 mm
Number of cells	144 (6 × 24)
Dimensions	2095 × 1039 × 35 mm (82,5 × 40,9 × 1,4 cali)
Weight	24,5 kg (54,0 lbs.)
Front screen	3,2 mm (0,13 inch) tempered glass
Frame	Anodized aluminum alloy
Junction box	Protection class IP68 (3 bypass-diodes)
Output wires	4,0 mm <sup>2</sup> Vertical: (-) 350 mm i (+) 160 mm Horizontal: (-)1400 mm and (+)1400 mm or custom length
Connectors	MC4 EVO2, cable 01S

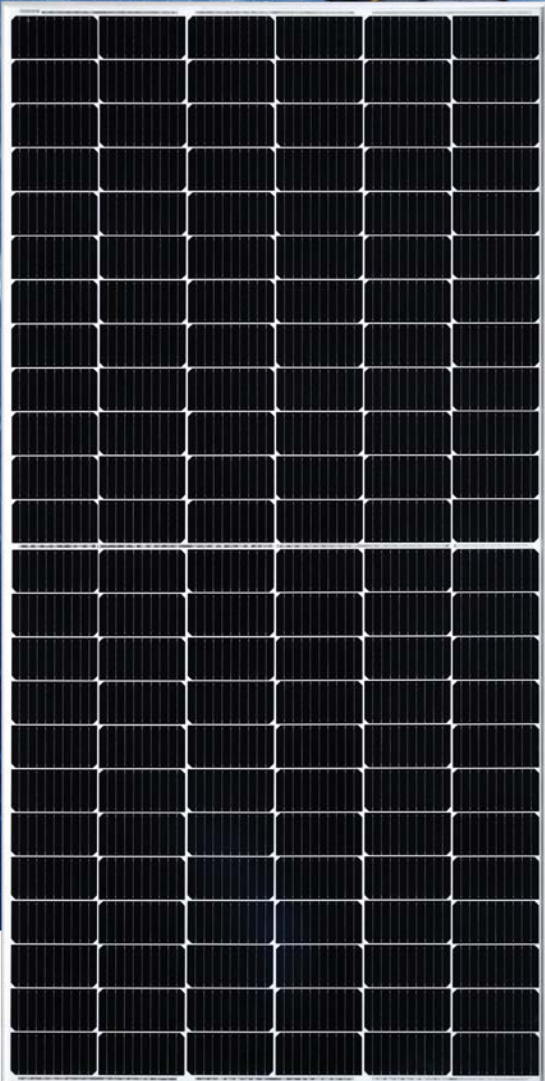
### Packaging configuration

Package dimensions	2125 × 1130 × 1205 mm
Package weight	812 kg

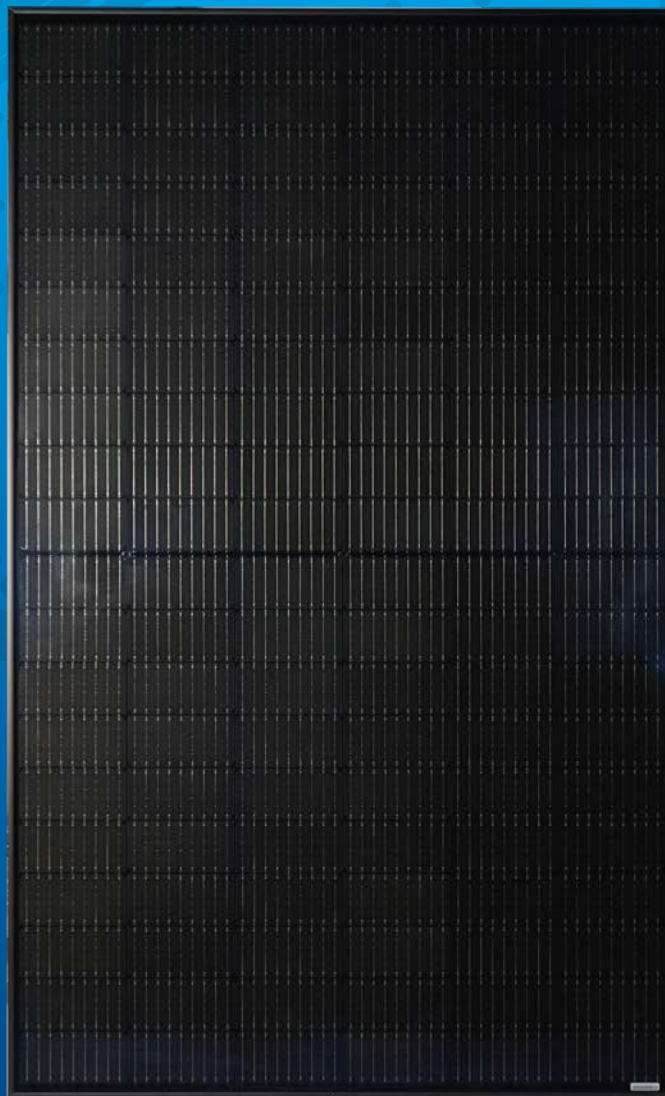
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SERIES **HI**Power

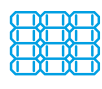


SERIES **FullBLACK**

360 W

# KEY FEATURES

## FullBlack 360 W series



- ✓ Premium modules with a solid black color over the entire surface for **a minimalist finish and high aesthetics of the canopy**

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- ✓ **Fully certified** by the accredited independent VDE Institute guaranteeing compliance with international quality standards (ISO 9001, ISO 14001, ISO 17025)

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- ✓ **High performance of modules** in difficult conditions confirmed by tests for resistance to salt, sand, and ammonium corrosion

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- ✓ Module properties adjusted **to European climate conditions and legal regulations**

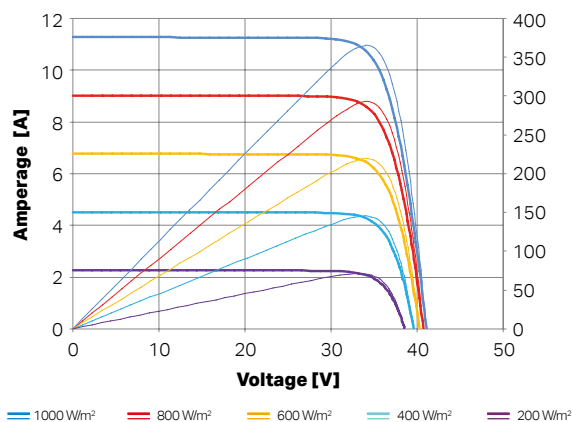
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- ✓ **Lightweight and durable construction, easy and versatile installation** both on the roof and on the ground

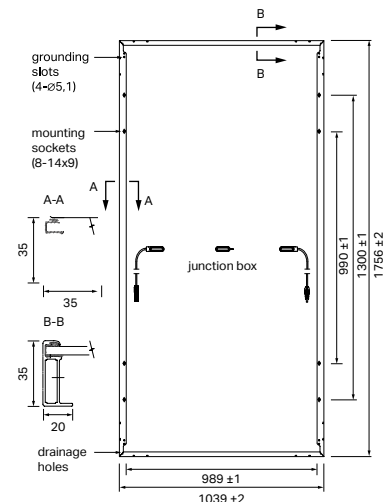
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- ✓ **25-year performance** guarantee

### CURRENT VOLTAGE CURVE (360S)



### DIMENSIONS FullBlack 360 W series





# TECHNICAL SPECIFICATIONS

## FullBlack 360W Series



### Electrical parameters

STPXXXS-B60/Wnhb	
<b>STC</b>	
Maximum power in SWT (Pmax)	360 W
Optimum operating voltage (Vmp)	33,9 V
Optimum operating current (Imp)	10,62 A
Idle voltage (Voc)	40,5 V
Short-circuit current (Isc)	11,35 A
Module efficiency	19,7 %
Module operating temperature	-40 °C do +85 °C
Maximum parameters of series fuses	1000 / 1500 V
<b>NMOT</b>	
Maximum power in ZTRM (Pmax)	270,7 W
Optimum operating voltage (Vmp)	31,6 V
Optimum operating current (Imp)	8,56 A
Idle voltage (Voc)	38,4 V
Power tolerance	9,04 A

### Temperature parameters

Nominal operating temperature of module (NMOT)	42 ± 2 °C
Temperature coefficient Pmax	-0,36% / °C
Temperature coefficient Voc	-0,304% / °C
Temperature coefficient Isc	0,050% / °C

### Mechanical parameters

Solar cell	Monocrystalline silicon 166 mm
Number of cells	120 (6 × 20)
Dimensions	1756 × 1039 × 35 mm (69,1 × 40,9 × 1,4 cali)
Weight	20,3 kg (44,8 lbs.)
Front screen	3,2 mm (0,13 inch) tempered glass
Frame	Anodized aluminum alloy
Junction box	Protection class IP68 (3 bypass-diodes)
Output wires	4,0 mm <sup>2</sup> Vertical: (-) 350 mm i (+) 160 mm Horizontal: (-)1200 mm and (+)1200 mm or custom length
Connectors	MC4 compatible

### Packaging configuration

Package dimensions	1786 × 1130 × 1203 mm
Package weight	679 kg

\* WEEE compliant version for EU market.

\*\* Kaisai reserves the right to the final interpretation of the Munich Re warranty.



SERIES **FullBLACK**



[www.kaisai.com](http://www.kaisai.com)