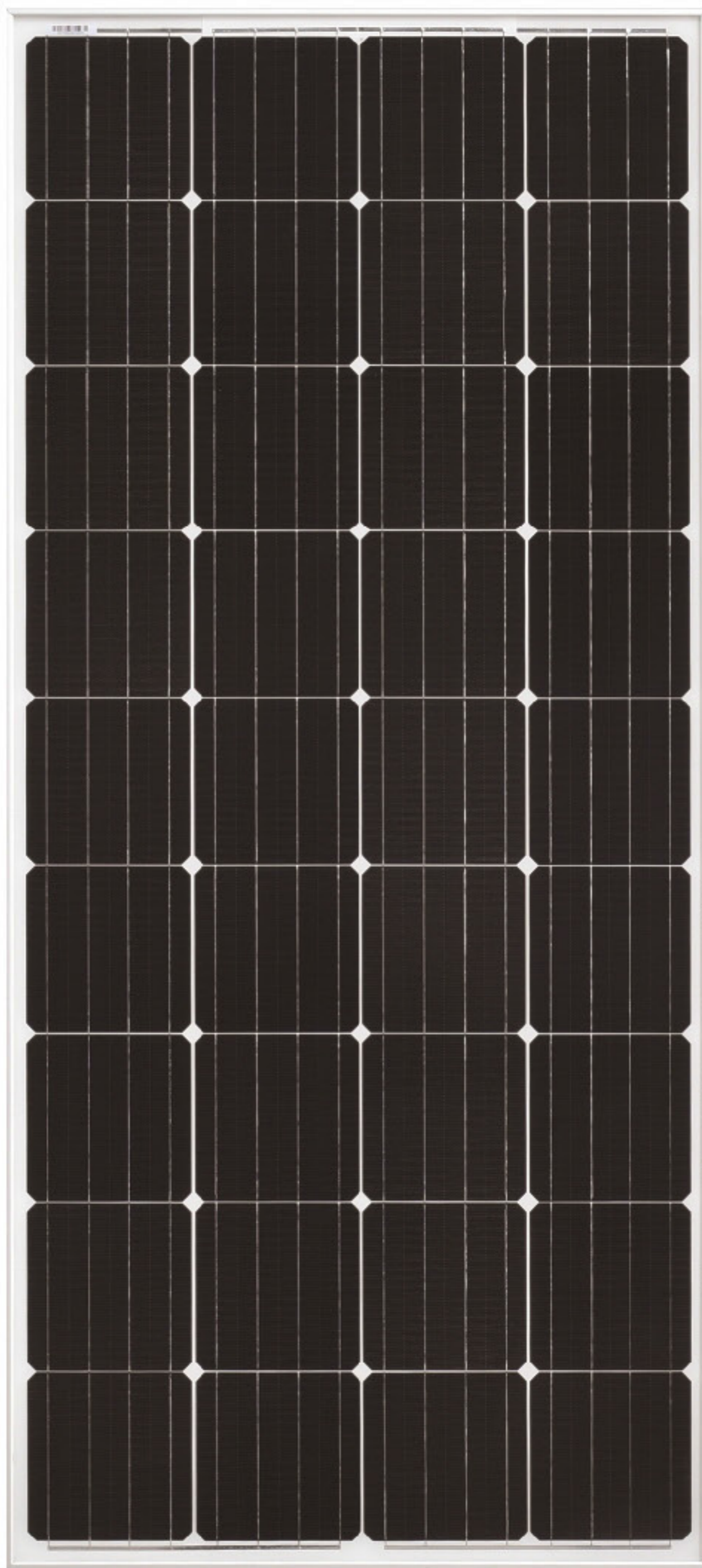
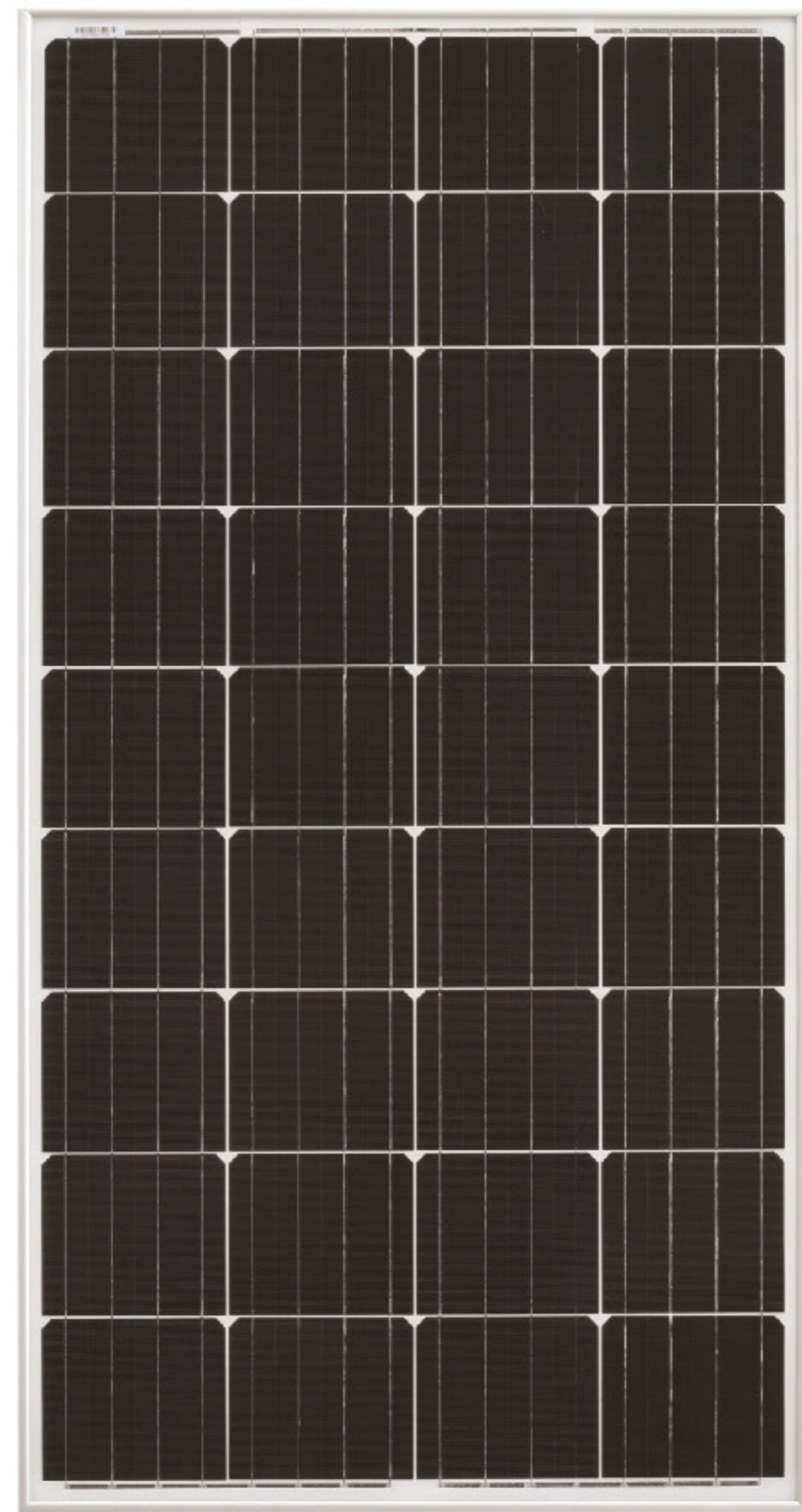


# 135~170 Watt



145W~170W



135W~140W



\*BLACK FRAME/BLACK BACK-SHEET PRODUCTS ARE AVAILABLE UPON REQUEST

## MANAGEMENT SYSTEM



ISO 9001: Quality management system



ISO 14001: Standard for environmental management system



OHSAS 18001: International standard for occupational health and safety assessment system

## PRODUCT CERTIFICATES



## WARRANTY

**10** Years

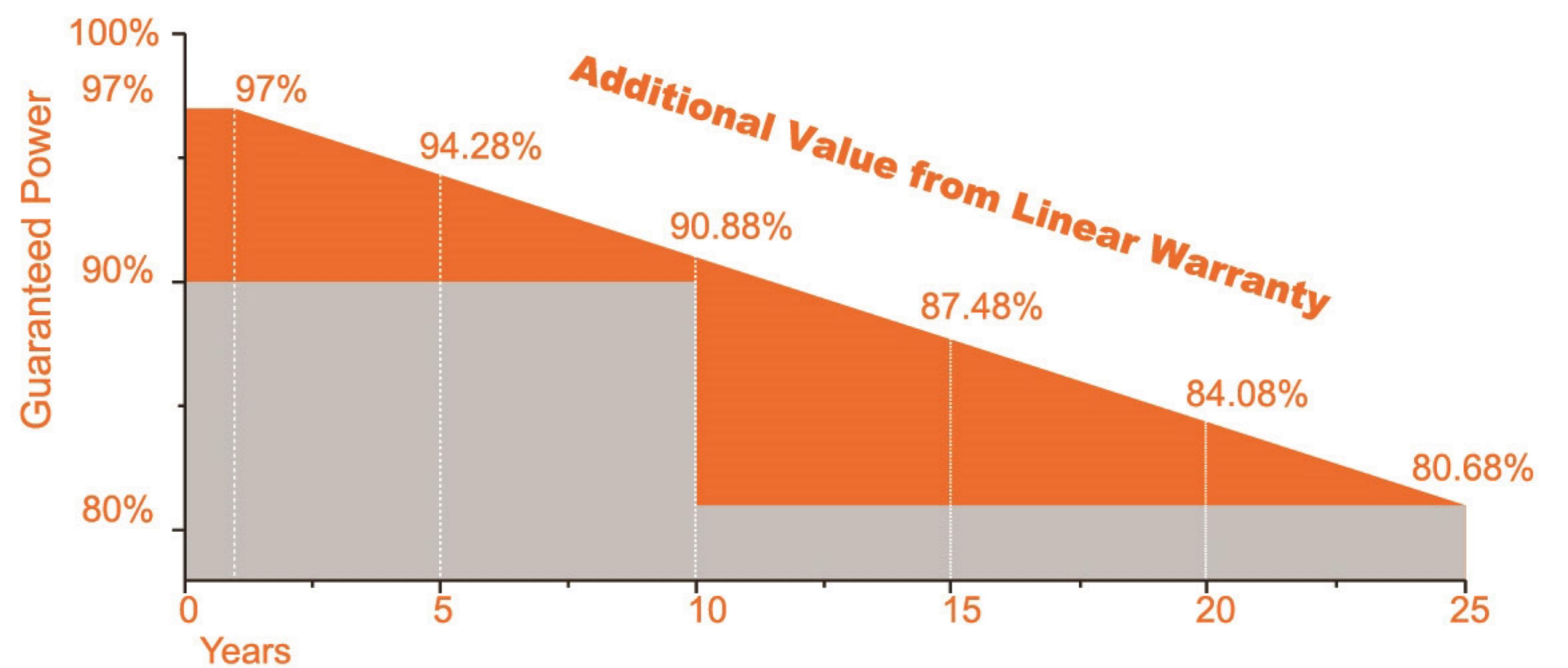
Material & Craft  
Quality assurance

**10** Years

90% Output  
Power guarantee

**25** Years

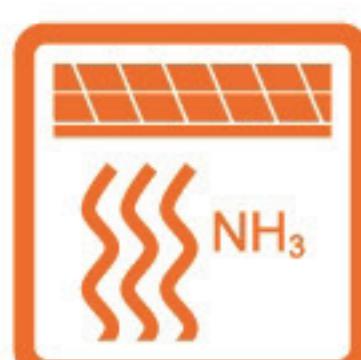
80% Output  
Power guarantee



## Safety



Safety for salt mist corrosion (IEC61701, tested in TUV)



Safety for ammonia corrosion (IEC62716, tested in TUV)



Safety for fire risk (Class A, tested in TUV)

## Key



High stability of the aluminium frame



High quality junction box and connector systems



100% inspection, to guarantee the reliability of solar systems

## Technology



Using high efficiency mono solar cells



Excellent performance in low-light environments



High transmissivity, low-iron tempered glass.

### Electrical Characteristics (STC)

Module Type	KF135M-12	KF140M-12	KF145M-12	KF150M-12
Maximum Power- Pmax(W)	135	140	145	150
Open Circuit Voltage - Voc(V)	22.7	22.9	22.4	22.6
Short- Circuit Current - Isc(A)	7.88	8.13	8.60	8.80
Voltage at Pmax -Vmp(V)	18.5	18.6	18.2	18.4
Current at Pmax - Imp(A)	7.30	7.53	7.97	8.15
Module Efficiency -ηm (%)	15.77	16.36	14.60	15.10

Module Type	KF155M-12	KF160M-12	KF165M-12	KF170M-12
Maximum Power- Pmax(W)	155	160	165	170
Open Circuit Voltage - Voc(V)	22.7	22.8	23.1	23.3
Short- Circuit Current - Isc(A)	9.05	9.29	9.53	9.71
Voltage at Pmax -Vmp(V)	18.5	18.6	18.7	18.9
Current at Pmax - Imp(A)	8.38	8.60	8.82	8.99
Module Efficiency -ηm (%)	15.60	16.11	16.61	17.11

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass 1.5

Power Tolerance(W)	(0,+4.99)
Maximum System Voltage(V)	715
Maximum Series Fuse Rating (A)	20

### Temperature Characteristics

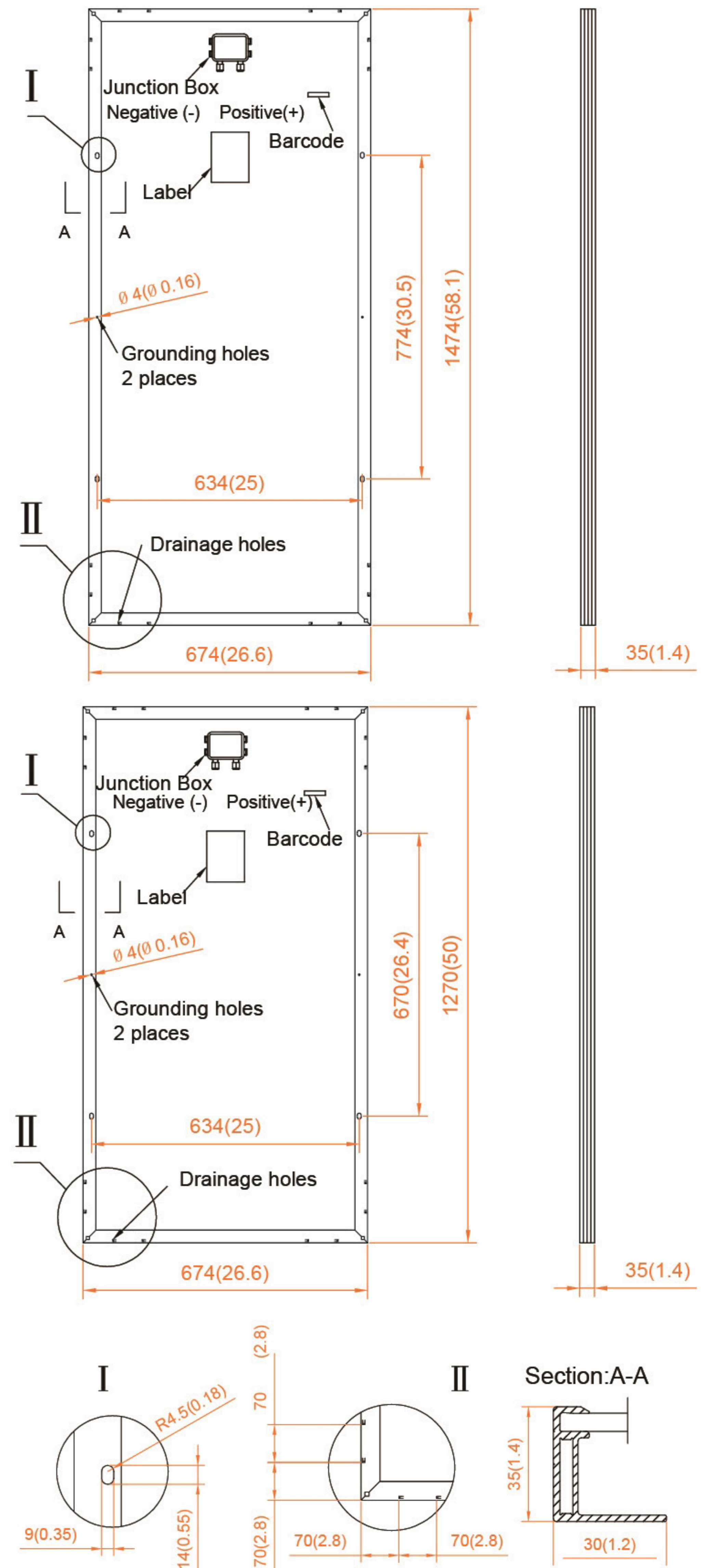
Pmax Temperature Coefficient	-0.40%/°C
Voc Temperature Coefficient	-0.32%/°C
Isc Temperature Coefficient	+0.05%/°C
Operating Temperature	-40~+85°C
Nominal Operating Cell Temperature(NOCT)	45±2°C

### Mechanical Specifications

Module Type	KF145~170M-12	KF135/140M-12
External Dimensions	1474×674×35mm	1270×674×35mm
Weight	11kg	9.5kg
Mono Solar Cells	156×156mm (36pcs)	133.25×156mm (36pcs)
Front Glass	3.2 mm tempered glass, low iron	3.2 mm tempered glass, low iron
Frame	Anodized aluminum alloy	Anodized aluminum alloy
Junction Box	IP67	IP67
Mechanical Load	5400 Pa	5400 Pa

### Packing Configuration

Module Type	KF145~170M-12	KF135/140M-12
Carton Dimensions	1515×1110×689mm	1310×1110×689mm
Pallet Dimensions	1525×1120×830mm	1320×1120×830mm
Pallet Weight	380kg	335kg
Pieces per Pallet	30(5pcs/carton)	30(5pcs/carton)



All Dimensions in mm(inch)

The above drawing is a graphical representation of the product.  
For engineering quality drawings please contact KFSOLAR.

### I-V Curve (KF160M-12)

