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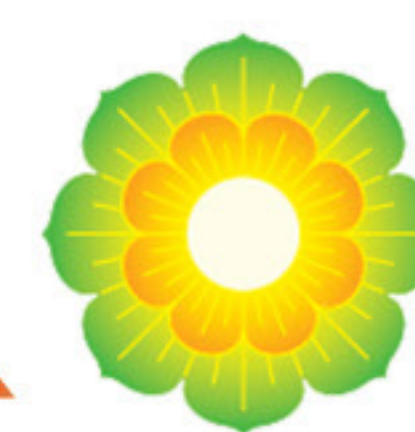
Solar Panel Guide

Specification Data Sheet

Learn more at energypal.com/best-solar-panels-for-homes

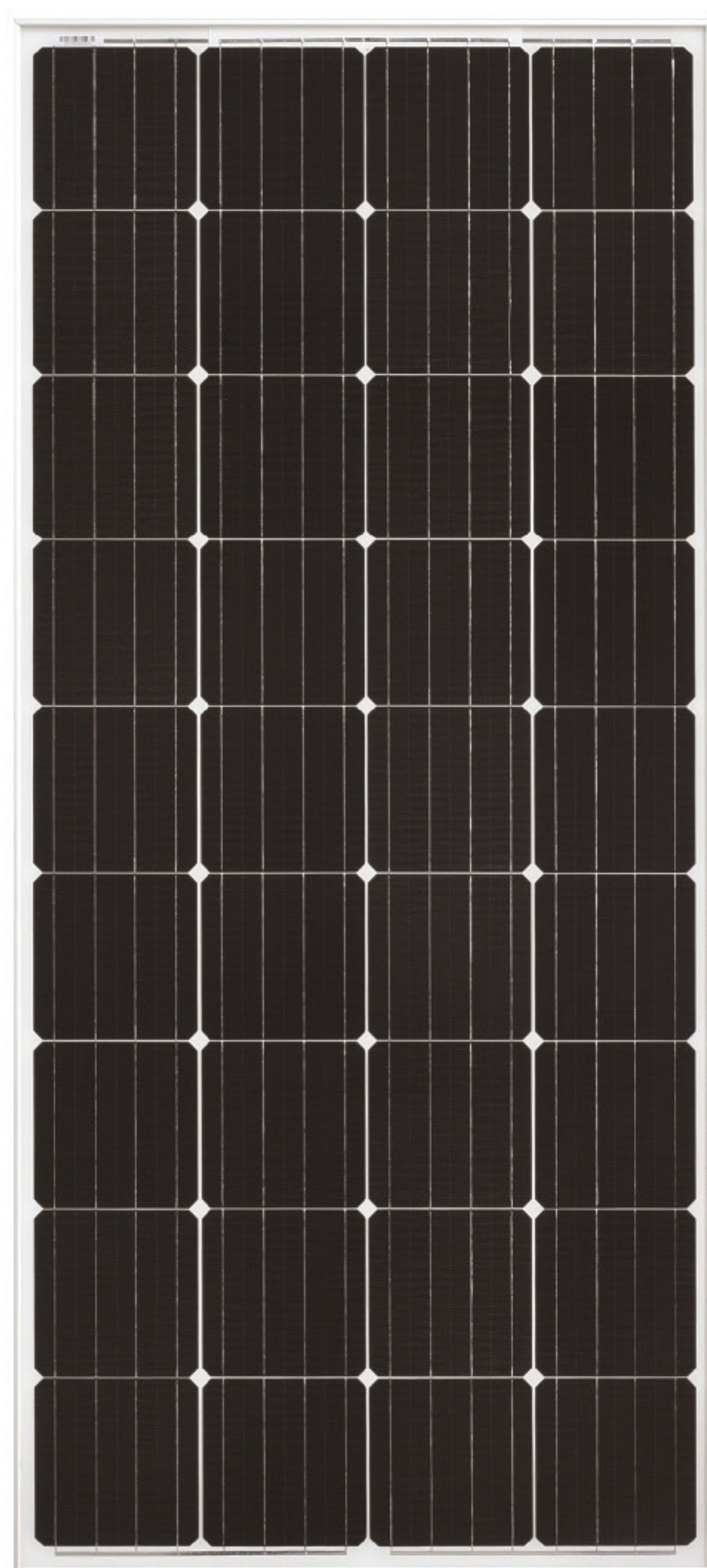
KF135~170M-12

Customized 36Cells Monocrystalline PV Module

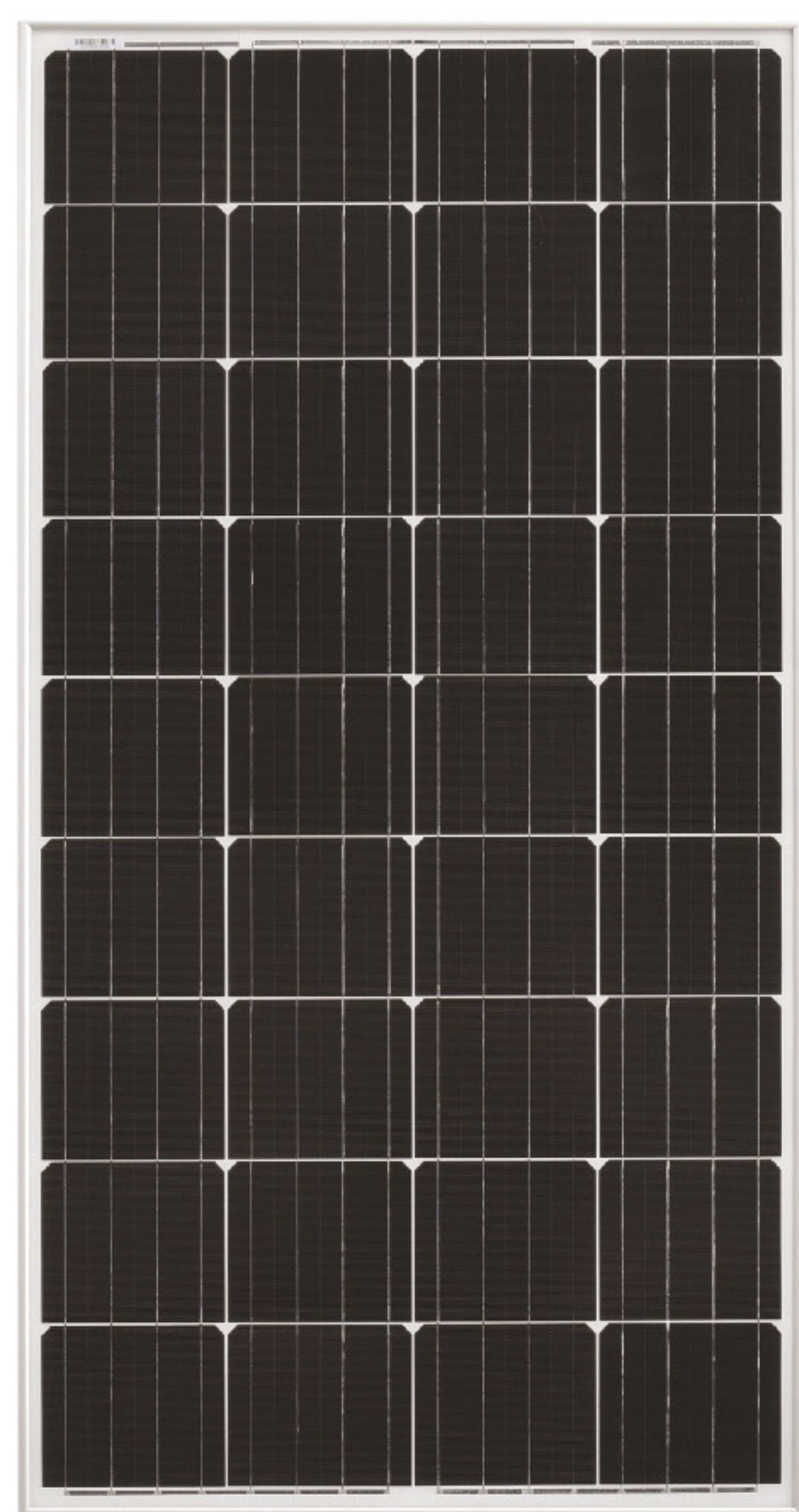


KFSOLAR
wisdom enlighten future

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



IEC 61215
IEC 61730
Periodical Inspection



WARRANTY

10 Years

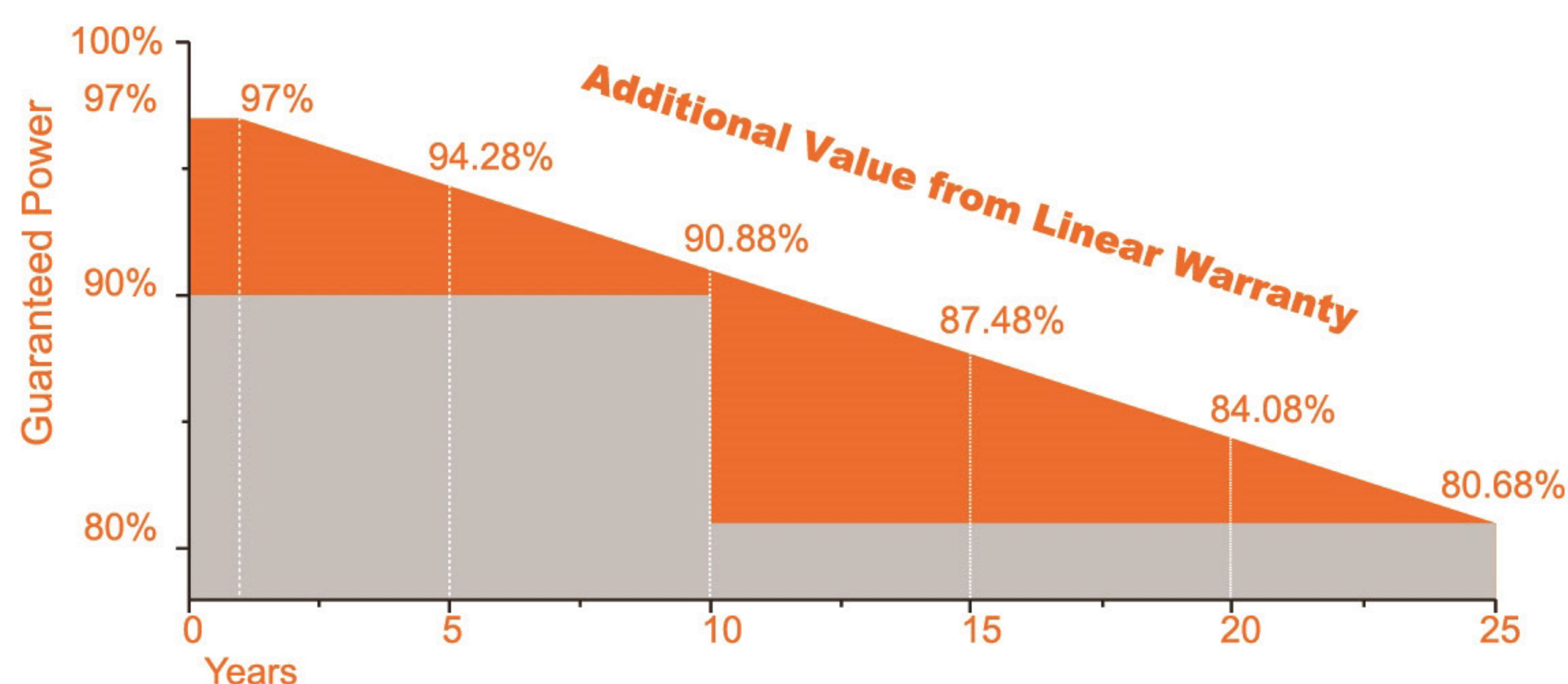
Material & Craft
Quality
assurance

10 Years

90% Output
Power
guarantee

25 Years

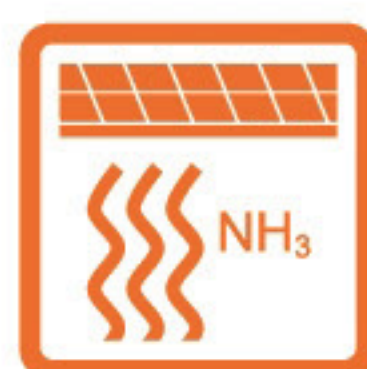
80% Output
Power
guarantee



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/m², Cell Temperature 25℃, Air Mass 1.5

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

Temperature Characteristics

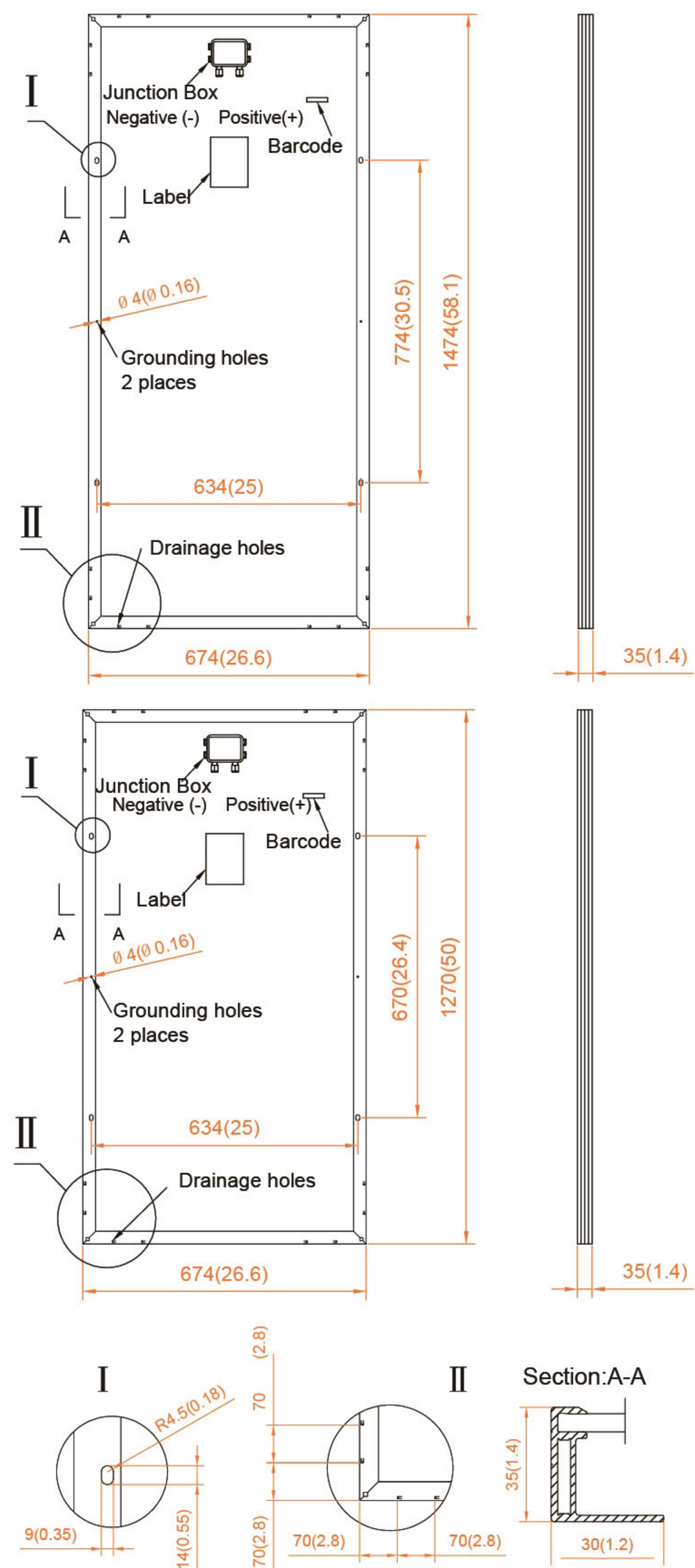
Pmax Temperature Coefficient	-0.40%/℃
Voc Temperature Coefficient	-0.32%/℃
Isc Temperature Coefficient	+0.05%/℃
Operating Temperature	-40~+85℃
Nominal Operating Cell Temperature(NOCT)	45±2℃

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)