



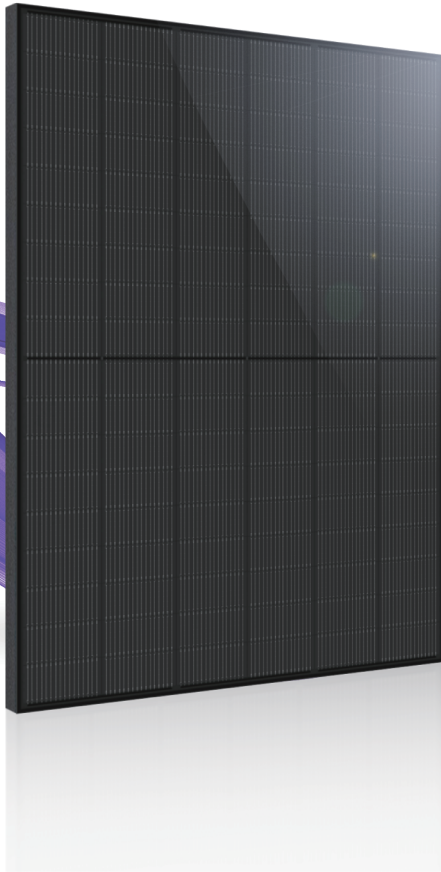
GLORY TOPCon

FKF_BFD-BB / 108 cells

440 W - 460 W

Mono-Crystalline Bifacial PV Module

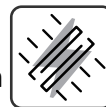
United Renewable Energy Co., Ltd. (a company from Taiwan where the sun shines) Glory TOPCon module uses URECO TOPCon monocrystalline bifacial solar cells, and URECO advanced glass(G2G) module manufacturing technology.



Key Features



Multi-Bus bar/ TLS technology
Increase the stability of outdoor power generation



Better bifaciality
High bifacial rate



PID resistance
Excellent PID resistance performance



Enhanced performance warranty
Zero light induced degradation effect/
Excellent low light performance



30-Year
Power output warranty



Superior temperature coefficient
Better performance in high temperature



Electrical Data

Model		Bifacial Gain			Bifacial Gain			Bifacial Gain		
		FKF440BFD-BB	5%	10%	FKF445BFD-BB	5%	10%	FKF450BFD-BB	5%	10%
Maximum Rating Power (Pmax)	[W]	440	462	484	445	467	490	450	473	495
Module Efficiency	[%]	22.02	23.12	24.22	22.27	23.38	24.50	22.52	23.65	24.77
Open Circuit Voltage (Voc)	[V]	38.88	38.88	38.88	39.08	39.08	39.08	39.28	39.28	39.28
Maximum Power Voltage	[V]	32.48	32.48	32.48	32.65	32.65	32.65	32.83	32.83	32.83
Short Circuit Current (Isc)	[A]	14.32	15.04	15.75	14.41	15.13	15.85	14.49	15.21	15.94
Maximum Power Current	[A]	13.55	14.23	14.91	13.63	14.31	14.99	13.71	14.40	15.08
Model		FKF455BFD-BB	5%	10%	FKF460BFD-BB	5%	10%			
Maximum Rating Power (Pmax)	[W]	455	478	501	460	483	506			
Module Efficiency	[%]	22.77	23.91	25.05	23.02	24.17	25.32			
Open Circuit Voltage (Voc)	[V]	39.48	39.48	39.48	39.68	39.68	39.68			
Maximum Power Voltage	[V]	33.00	33.00	33.00	33.17	33.17	33.17			
Short Circuit Current (Isc)	[A]	14.57	15.30	16.03	14.65	15.38	16.12			
Maximum Power Current	[A]	13.79	14.48	15.17	13.87	14.56	15.26			

*Standard Test Condition (STC): Cell Temperature 25 °C, Irradiance 1000 W/m², AM 1.5
 *Values without tolerance are typical numbers. Measurement tolerance: ±3%

Mechanical Data

Item	Specification
Dimensions	1762 mm (L) ¹ x 1134 mm (W) ¹ x 30 mm (D) ² / 69.37" (L) ¹ x 44.65" (W) ¹ x 1.18" (D) ²
Weight	21.0 kg / 46.30 lbs
Solar Cell	N-type Mono/ 182mm x 94mm, 108 monocrystalline cells
Front Glass	1.6 mm thickness
Rear Glass	1.6 mm thickness
Cell Encapsulation	POE/ EPE/ EVA
Frame	Black anodized aluminum alloy
Junction Box	IP68
Connector Type	MC4 Compatible
Length of Cable	4mm ² , Portrait: +300mm/ -300mm
Package Configuration	36 pcs Per Pallet, 936 pcs per 40' HQ container

¹ : With assembly tolerance of ± 2 mm [± 0.08"]
² : With assembly tolerance of ± 0.8 mm [± 0.03"]

Operating Conditions

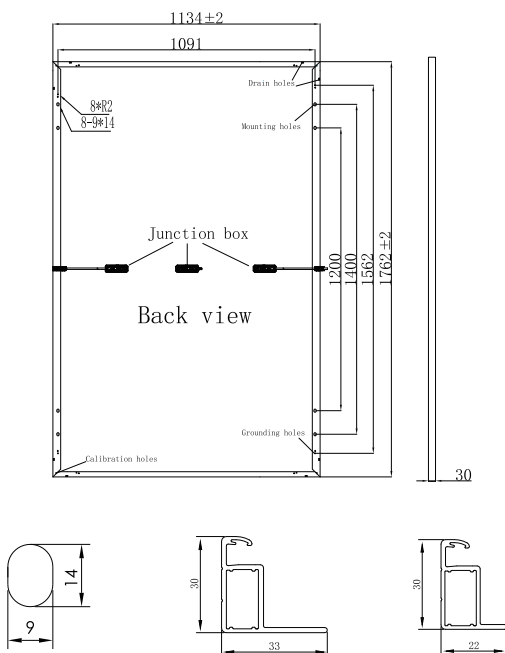
Item	Specification
Mechanical Load	5400 Pa
Maximum System Voltage	1500 VDC
Series Fuse Rating	25 A
Operating Temperature	-40 to 85 °C

Temperature Characteristics

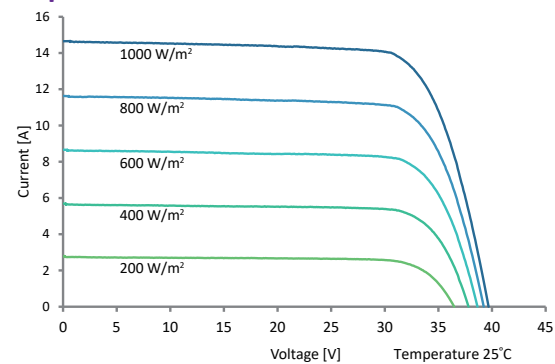
Item	Specification
Nominal Module Operating Temperature	44 °C ± 2 °C
Temperature Coefficient of Isc	0.046 % / °C
Temperature Coefficient of Voc	-0.25 % / °C
Temperature Coefficient of Pmax	-0.30 % / °C

*Nominal module operating temperature (NMOT): Air mass AM 1.5, irradiance 800W/m², temperature 20°C, windspeed 1 m/s.
 *Reduction in efficiency from 1000W/m² to 200W/m² at 25°C: 3.5 ± 2%.

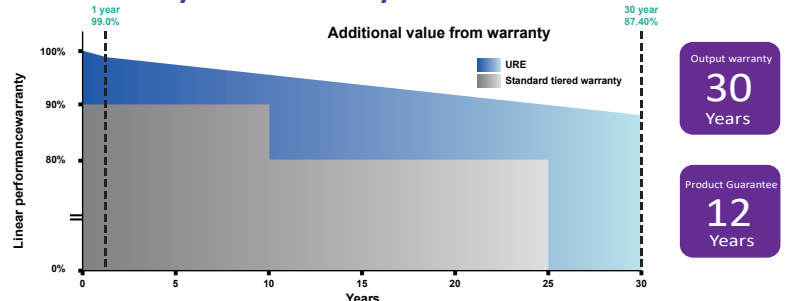
Engineering Drawing (mm)



Dependence on Irradiance



Reliability with Warranty



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