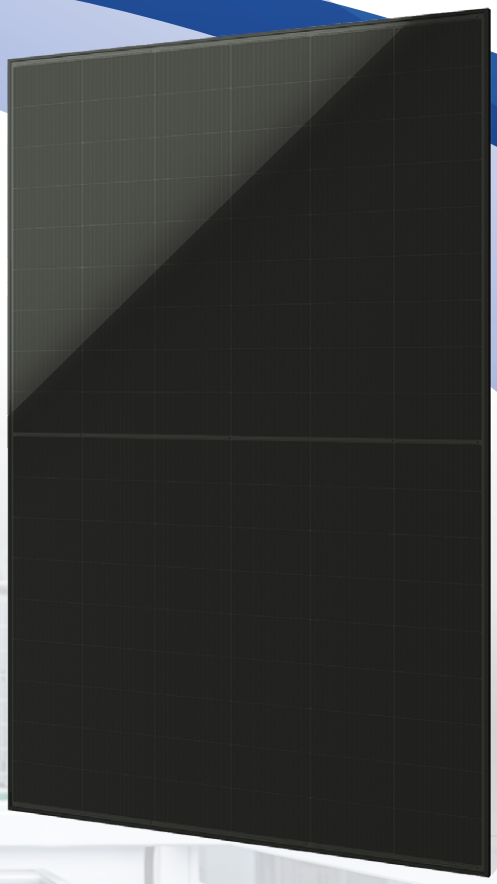
Gokin

ALL BLACK

GEM G12R/108D

490-515W



Supreme Quality

High Efficiency

Module efficiency up to 23.2% based on N-Type wafer and TOPCon technology

Excellent Energy Yield

More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality

Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special charateristics of N-Type

Quality Guarantee

High module quality ensures long-term reliability

Module Characteristics

15-Year	30-Year	1%	0.4%
Product Warranty	Linear Power Warranty	First Year Degradation	Annual Power Degradation

IEC 61215(2021) / IEC 61730(2023)

ISO 9001: 2015: ISO Quality Management System

Anti-PID / Ammonia / Salt-mist / Dust and sand

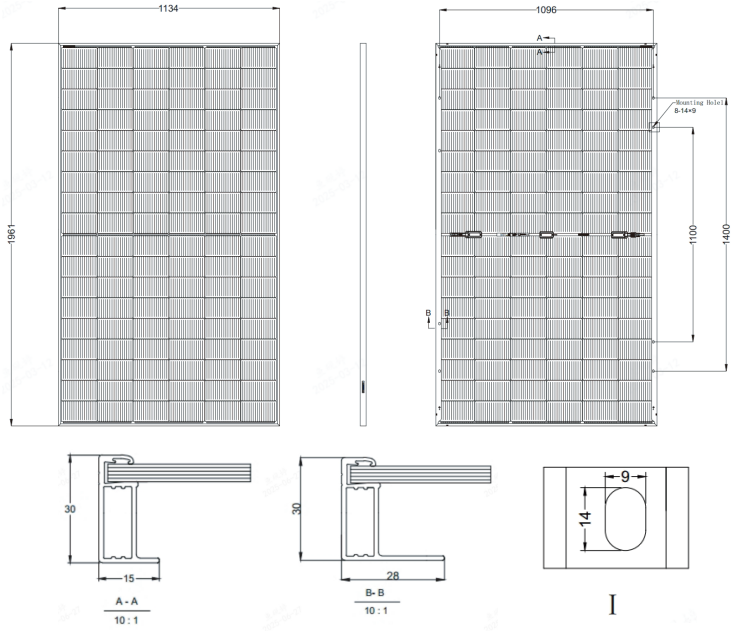
Made in China

515W	23.2%	1%	0.4%
Maximum Power	Highest Conversion Efficiency	First Year Degradation	2-30 Years Annual Power Attenuation

Mechanical Parameters

Cell Type	N-Type TOPCon
No. of cells	108 (2×54)
Output Cables	TüV 1×4mm ²
	(+)300mm,(-)200mm in length or customized length
Glass	Front: 2.0mm, AR-coating, semi-tempered
	Rear: 2.0mm, semi-tempered
Frame	Anodized aluminum alloy frame
Weight	26.3 kg (57.98 lbs)
Dimension	1961×1134×30mm
Packaging	37 pcs per pallet
	185 pcs per 20' HC, 888 pcs per 40' HC
Protection Class	Class II
Fire Rating	IEC Class A

Engineering Drawings

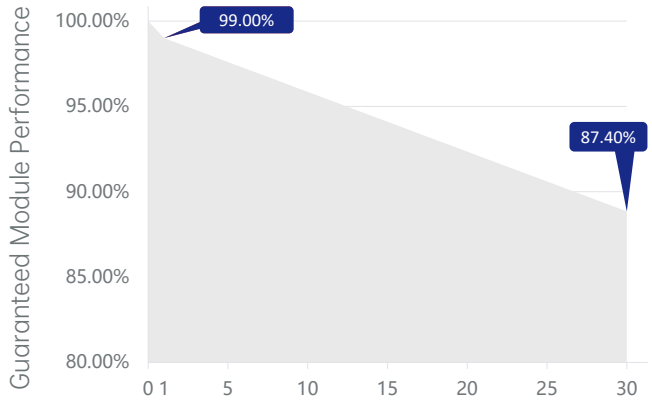


* Length:±2mm Width:±2mm Height:±1mm Row Pitch:±2mm

Electrical Characteristics (STC Test)

Module Type	GK-4-54HTBD-490M		GK-4-54HTBD-495M		GK-4-54HTBD-500M		GK-4-54HTBD-505M		GK-4-54HTBD-510M		GK-4-54HTBD-515M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	490	371	495	375	500	379	505	383	510	386	515	390
Open-circuit Voltage (Voc/V)	39.61	36.84	39.81	37.02	40.02	37.22	40.22	37.40	40.42	37.59	40.62	37.78
Short-circuit Current (Isc/A)	15.74	12.91	15.81	12.96	15.88	13.02	15.95	13.08	16.02	13.14	16.08	13.19
Maximum Power Voltage (Vmp/V)	32.65	30.30	32.85	30.48	33.05	30.67	33.25	30.86	33.45	31.04	33.64	31.22
Maximum Power Current (Imp/A)	15.01	12.25	15.07	12.30	15.13	12.35	15.19	12.40	15.25	12.44	15.31	12.49
Module Efficiency (%)	22.0		22.3		22.5		22.7		22.9		23.2	

Note: 1、STC: Irradiance 1000W/M², Cell Temperature25℃, AM=1.5 2、NOCT: Irradiance 800W/M², Ambient Temperature 20℃, AM=1.5, Wind Speed 1M/S



Working Parameters

Operating Temperature	-40℃~ +85℃
Power Tolerance	0~ +5W
Maximum System Voltage	1500V(IEC)
NOCT	45±2℃
Maximum Series Fuse Rating	30A
Bifacial Factor	80±5%
Junction Box	IP68

Temperature Ratings (STC)

Temperature coefficient of Isc	+ 0.045%/℃
Temperature coefficient of Voc	- 0.25%/℃
Temperature coefficient of Pmax	- 0.29%/℃

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm hailstone at 23m/s

Gokin

Gokin Solar Co., Ltd.
https://www.gokinsolar.com
gk@gokinsolar.com
Office 1102, No. 58 Huajin Street, Hengqin Free Trade Zone, Zhuhai City, Guangdong Province, China.

Product data is updated as of May 2024. Gokin Solar Co., Ltd. reserves the right to change specifications.