PERLIGHT SOLAR
Powering Possibilities

PERLIGHT BLACK GRID 465W

PLM-465DH8NHB-96

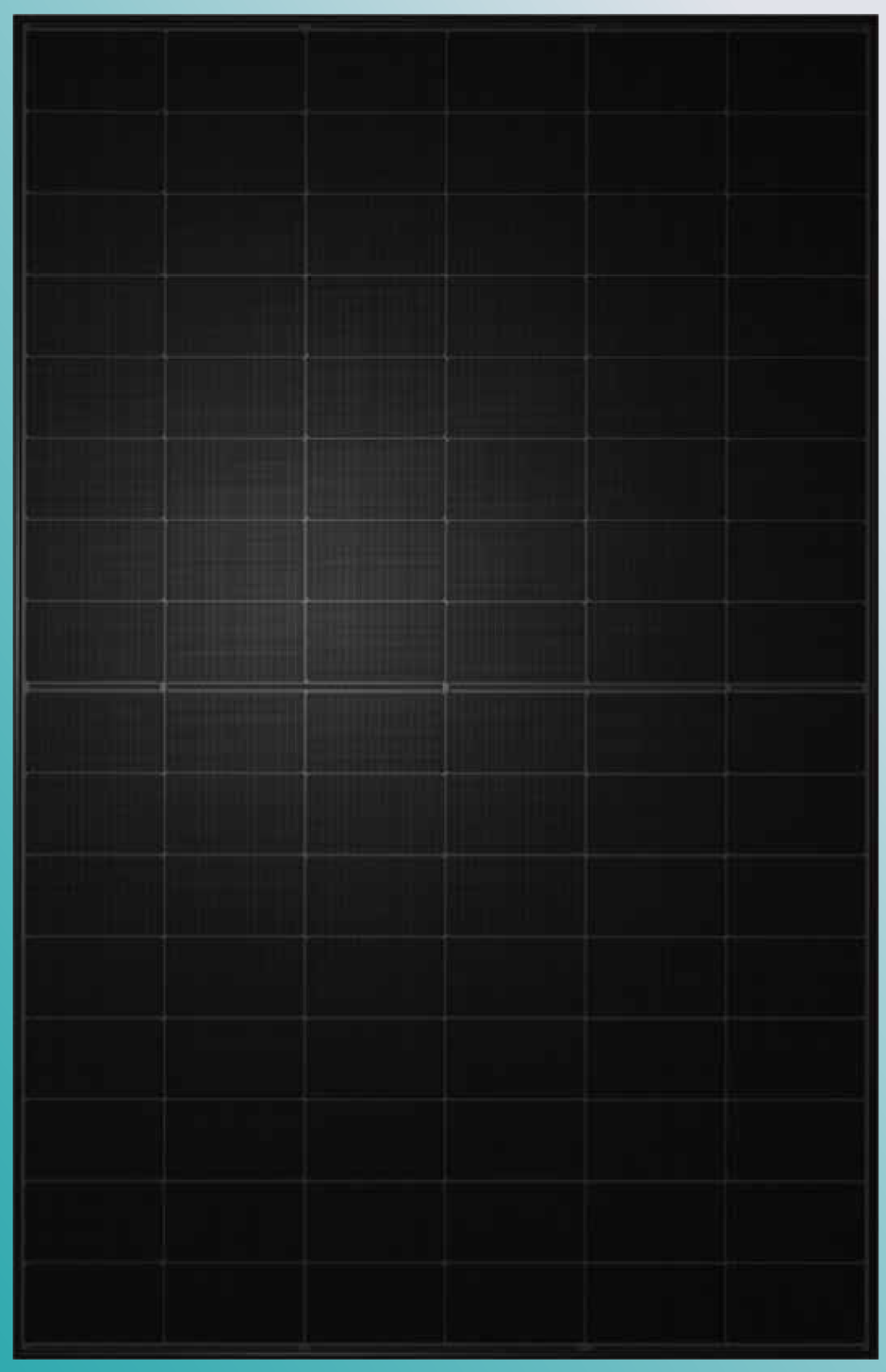
N-Type TOPCon Bifacial Dual Glass

23.27% STC Efficiency

25.68% BSTC Efficiency

30-YEAR Warranty

N-TYPE TOPCon



MODULE FEATURES

High Power Output

Improved light trapping and current collection enhance module power output and long-term reliability.

Outstanding Low Light Performance

Excellent low-light performance ensures higher energy yield in cloudy, foggy, and early morning or late afternoon conditions.

Improved Temperature Coefficient

Optimised for stronger power generation and improved energy yield under high-temperature operating conditions.

PID Resistance

Excellent resistance to Potential Induced Degradation (PID) through optimised cell processing and strict material quality control.

Enhanced Mechanical Load

Certified to withstand wind loads of up to 2400 Pa and snow loads of up to 5400 Pa, ensuring reliable performance under demanding environmental conditions.

Bifacial Performance

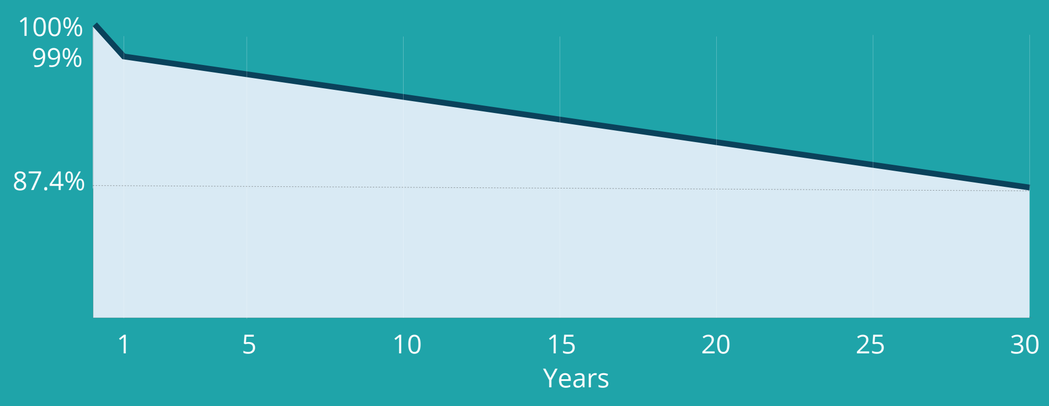
Up to 25.68% module efficiency under BSTC, delivering up to 10.36% additional energy gain compared to standard front-side STC performance.

EXTENDED POWER OUTPUT WARRANTY

30 years limited product warranty

30 years performance warranty

PERLIGHT'S LINEAR PERFORMANCE WARRANTY



QUALITY MANAGEMENT SYSTEMS & PRODUCT CERTIFICATION

IEC61215/61730, IEC62804(PID), IEC61701 (Salt),

IEC62716 (Ammonia), IEC60068-2-68 (Sand)

ISO 9001:2015 / quality management system

ISO 14001:2015 / environmental management system

ISO 45001:2018 / occupational health & safety management system

ISO 50001:2011 / energy management system

IEC TS 62941 - 2016 / PV industry quality management system

ETHICAL MANUFACTURING STANDARDS

SILVER | Top 15% ecovadis Sustainability Rating JAN 2026

SAI SOCIAL ACCOUNTABILITY INTERNATIONAL SA 8000

Sedex Member

Independently verified for ethical manufacturing, worker welfare, and responsible supply chains.

MCS CERTIFIED · TÜV NORD CERT GmbH Type Tested · UKCA · CE

PERLIGHT SOLAR
Powering Possibilities

PLM-465DH8NHB-96

ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS	STC	BSTC	NOCT
Maximum Power - Pm (W)	465	513.3	350
Open Circuit Voltage - Voc (V)	36.35	36.35	33.84
Short Circuit Current - Isc (A)	16.12	17.80	13.11
Maximum Power Voltage - Vm (V)	30.94	30.94	28.66
Maximum Power Current - Im (A)	15.03	16.59	12.22
Module Efficiency - η (%)	23.27	25.68	

Note: 1. Standard Test Conditions (STC) irradiance 1000 W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
2. Nominal Module Operating Temperature (NOCT): Irradiance 800 W/m²; wind speed 1 m/s, ambient temperature 20°C;
3. BSTC: Front side irradiance 1000W/m², back side reflection irradiance 135W/m², AM=1.5, ambient temperature 25 °C
4. Tolerance of Pm: -/+3%, Measuring uncertainty of power: -/+3%. Performance deviation of Voc (V), Isc (A), Vm (V) and Im (A): -/+3%

MECHANICAL PARAMETERS

Dimensions	1762 x 1134 x 30 mm
Weight	23.7 kg ±4%
Front Glass	2.0 mm High-transmittance, AR Tempered Glass
Rear Glass	2.0 mm Semi-tempered Glass
Frame	Anodized Aluminium Alloy
Cells	N-Type Monocrystalline Cell
Number of Cells	96 [6x(16)]
Junction Box	IP 68 (3 Diodes)
Cable	4 mm², 1200 mm or Customised Length
Connector	Staubli MC4 EVO 2A

TEMPERATURE PARAMETERS

NOCT	45°C (±2°C)
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.046%/°C
Temperature Coefficient of Pm	-0.30%/°C

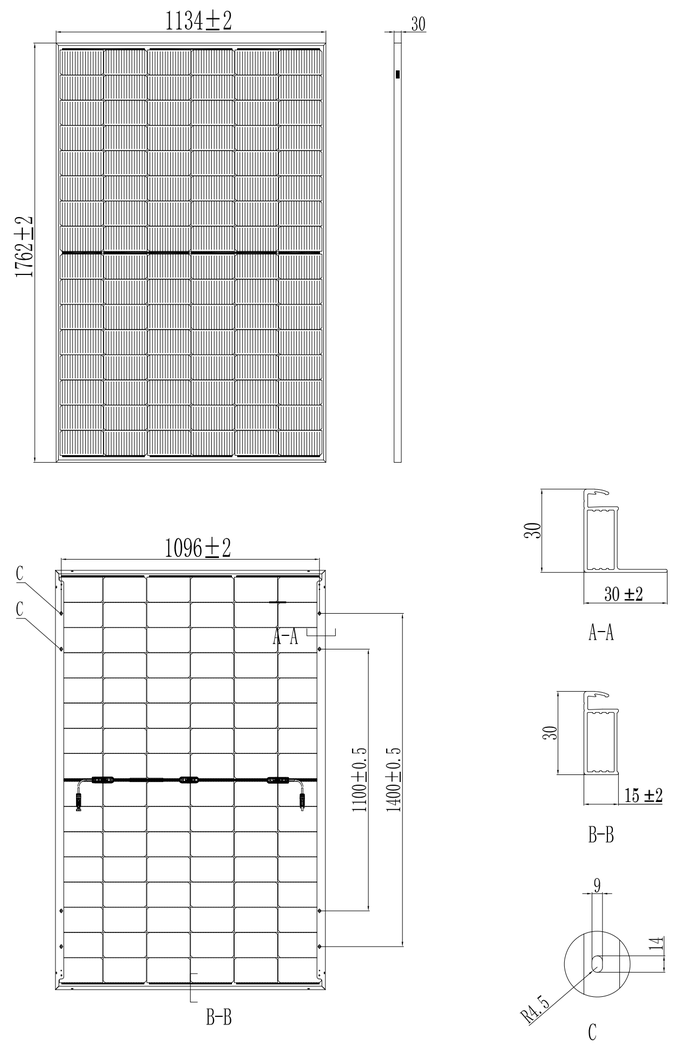
MAXIMUM RATINGS

Maximum System Voltage	1500 V DC (IEC)
Limiting Reverse Current	30 A
Maximum Surface Load Capacity	Front 5400 Pa / Back 2400 Pa
Temperature Range	-40 °C ~ +85 °C
Withstanding Hail	Max. diameter 25 mm with impact speed of 23 m/s
Power Tolerance	-/+3%

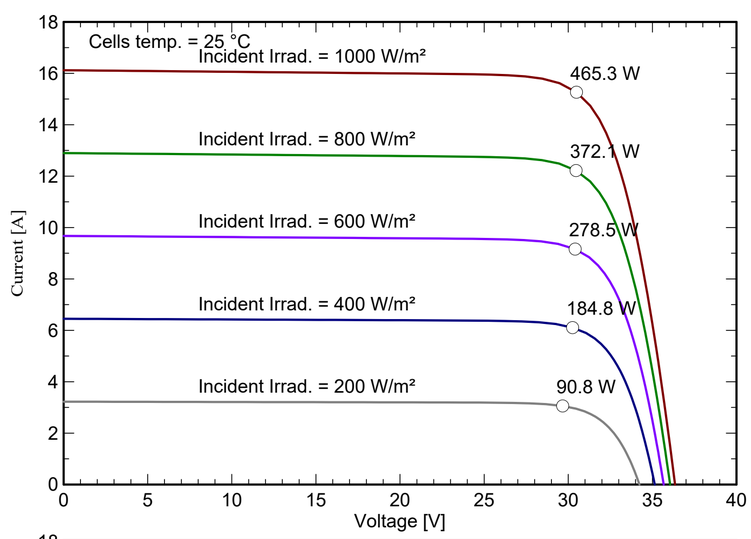
CLAMPING ZONES

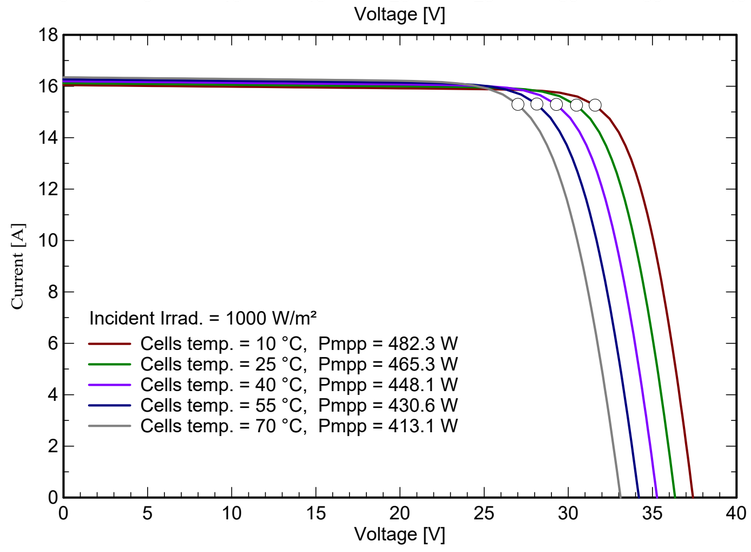
Long Side	420 mm to 520 mm from edge
Short Side	150 mm to 250 mm from edge

DRAWINGS



I-V CURVE





PACKAGING CONFIGURATION

Packaging Type	40'HQ
Piece/Pallet	37
Piece/Container	962

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