

Mono-crystalline PV Module (48Cells)-QingTian N-Type Half-cell All Black

CEC6-48E-TDV-R

430~450W **21.5%~22.5%**
OUTPUT POWER RANGE PV MODULE EFFICIENCY

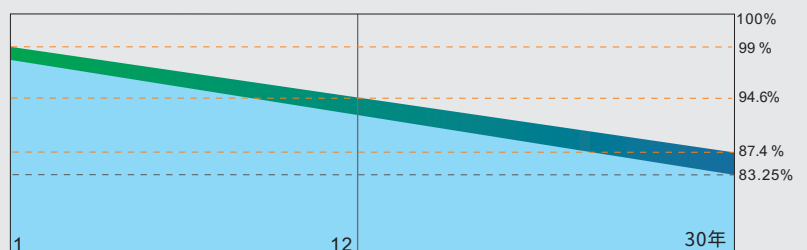
PRODUCT CHARACTERISTICS

- ◆ Light weight, easy to install, high cost performance, high efficiency
- ◆ Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
- ◆ Guaranteed output: 0~+5W
- ◆ Excellent performance in weak light condition, such as cloudy, morning and sunset
- ◆ Independently certified by international certification authorities, including IEC61215, IEC61730, CE



LINEAR WARRANTY AND CERTIFICATION

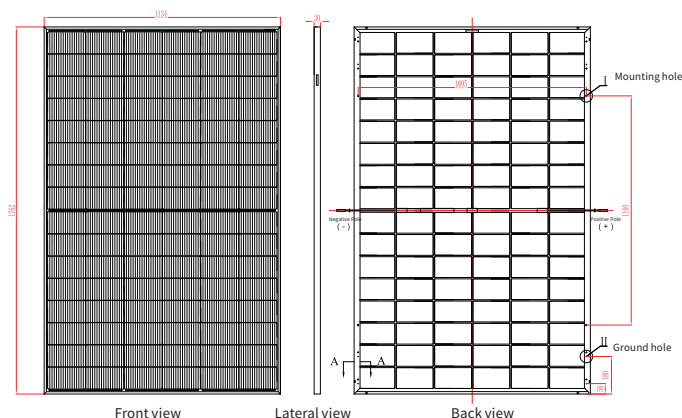
- 1st YEAR** 1st year output power not less than 99%
- 15 YEAR** Warranty for product materials and production processes within 15 years
- 12 YEAR** Output power not less than 94.6% within 12 years
- 30 YEAR** Output power not less than 87.4% within 30 years



■ CECEP Solar linear power warranty
■ Normal module linear power warranty

QUALITY OF CENTRAL ENTERPRISE SERVICE GUARANTEE

Assembly Drawing



Mechanical Characteristics

Cell type	182×105mm monocrystalline silicon solar cells, 96 cells (6×16)
Glass	1.6mm thick low-iron tempered half glass with high light transmittance
Junction Box	IP Grade: IP68

Temperature Rating

Nominal Module Operating Temperature (NMOT)	45°C±2°C
Maximum Power (Pmax) Temperature Coefficient (δ (%/°C))	-0.29
Open-circuit voltage (Voc) Temperature coefficient (β (%/°C))	-0.25
Short circuit current (Isc) Temperature coefficient (α (%/°C))	0.045

Parameters of Module

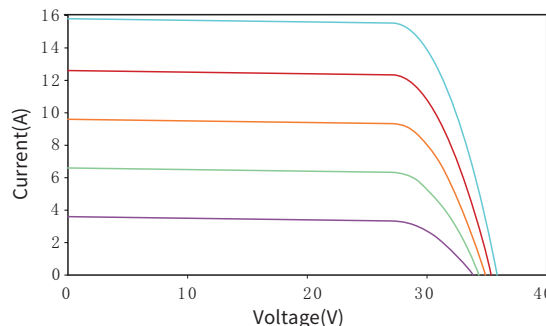
Electrical parameters (Standard test condition)	CEC6-48E-430TDV-R	CEC6-48E-435TDV-R	CEC6-48E-440TDV-R	CEC6-48E-445TDV-R	CEC6-48E-450TDV-R
Maximum power-Pmax(Wp)	430	435	440	445	450
Maximum operating voltage-Vmp(V)	29.36	29.54	29.72	29.90	30.08
Maximum operating current-Imp(A)	14.65	14.73	14.81	14.89	14.97
Open-circuit voltage-Voc(V)	34.31	34.49	34.67	34.85	35.03
Short-circuit current-Isc(A)	15.85	15.90	15.95	16.00	16.05
Maximum system voltage-Vdc(V)	1500	1500	1500	1500	1500
Module efficiency(%)	21.5	21.8	22.0	22.3	22.5
Power tolerance(W)	0/+5W	0/+5W	0/+5W	0/+5W	0/+5W

Measured values under STC (temperature 25°C, air mass AM1.5, irradiance 1000W/m²)

Different back-side power gain (for example 445W)

Power Gain	5%	10%	15%	20%	25%
Max Power(Wp)	467	490	512	534	556
Max-Power Voltage Vmp(V)	29.91	29.91	29.91	30.01	30.01
Max-Power Current Imp(A)	15.62	16.37	17.11	17.79	18.54
Open-Circuit Voltage Voc(V)	35.02	35.02	35.02	35.12	35.12
Short-Circuit Current Isc(A)	16.79	17.59	18.39	19.19	19.99
Module efficiency	23.3%	24.5%	25.6%	26.7%	27.8%

I-V Curve (440W)



Limit Parameters

Operating temperature	-40°C to +85°C
Maximum fuse current rating	25A

Physical Parameter

Dimension	1762*1134*30mm
Mounting hole size	1100*1095mm
Cable Length	300mm;Customizable
Weight	21Kg

Mode of Packing

40'HQ Container	Pieces per pallet	36 pcs/pallet
	pallets per container	26 pallets/40'HQ
	Pieces per container	936pcs/40'HQ



Make Power Genration More Green

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