

TCL 182

TCL-MR420~435DH182-54NTB

TOPCon Bifacial (All Black) High Efficiency PV Module

PRODUCT FEATURES



HIGHER POWER DENSITY

- Output up to 435watt on 1.952M²
- Module efficiency high to 22.3%
- Gain more solar power per square meter



SEMI+SMBB

- Semi design deduce working temperature of operation and minimize hot-spot risk
- SMBB design deduce cover of busbars and improve current collection ability on windy days
- Improve the output/watt



ENHANCED MECHANICAL LOAD

- Wind load 2400 Pascal
- Snow load 5400 Pascal



APPLIED UNDER STRICT CONDITIONS

- Modules could be applied under ammonia, salt mist, high temperature, high humidity condition



IP68

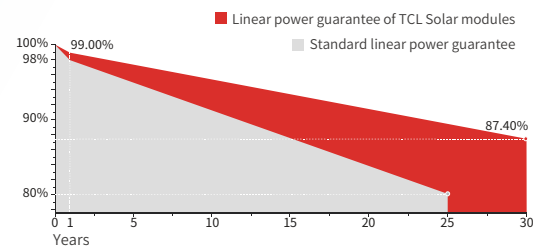
- IP68 junction boxes improve water-proof performance



EXCELLENT FIRE-PROOF PERFORMANCE

- Modules have passed anti-fire test

LINEAR PERFORMANCE WARRANTY



15 YEARS product warranty

0.40% Linear attenuation of 0.40% per year within 30 years

30 YEARS linear power warranty

CERTIFICATES

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational health and safety management systems



Electrical Data (STC)

Rated Power In Watts-Pmax (Wp)	420	425	430	435
Maximum Power Voltage-Vmpp (V)	31.84	32.05	32.26	32.47
Maximum Power Current-Impp (A)	13.19	13.26	13.33	13.40
Open Circuit Voltage-Voc (V)	38.04	38.23	38.42	38.61
Short Circuit Current-Isc (A)	14	14.08	14.16	14.24
Module Efficiency (%)	21.5%	21.8%	22.0%	22.3%

STC: Irradiation 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

Electrical Data (NMOT)

Maximum Power-Pmax (Wp)	318	322	326	330
Maximum Power Voltage-Vmpp (V)	29.95	30.11	30.24	30.39
Maximum Power Current-Impp (A)	10.62	10.7	10.78	10.86
Open Circuit Voltage-Voc (V)	36.2	36.38	36.56	36.74
Short Circuit Current-Isc (A)	11.21	11.27	11.33	11.39

NMOT: Irradiation: 800 W/m², ambient temperature: 20°C, air mass: 1.5, wind speed 1 m/s

Electrical Characteristics With Different Rear Side Power Again (Reference To 435w Front)

Pmax gain (%)	5%	10%	15%	20%	25%
Maximum Power (Pmax/W)	457	479	500	522	544
Maximum Power Voltage (Vmpp/V)	32.47	32.47	32.47	32.47	32.47
Maximum Power Current (Impp/A)	14.07	14.74	15.41	16.08	16.75

Mechanical Characteristics

Solar Cells	Monocrystalline N-type, SMBB
Cell Configuration	108 cells (6 x 9 x 2)
Module Dimensions	1722 x 1134 x 30 mm
Weight	22.0 kg
Glass	1.6mm Tempered ARC Glass
Back Sheet	1.6mm Glass, Black
Frame	Anodized Aluminium Alloy, Black
J-Box	IP68, 3 bypass diodes
Cables	4.0mm ² , (+) 380mm, (-) 380mm or customized length
Connector	MC4 EVO2 & Compatible

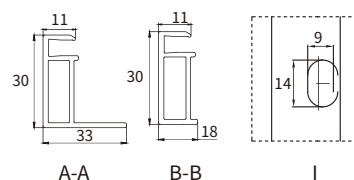
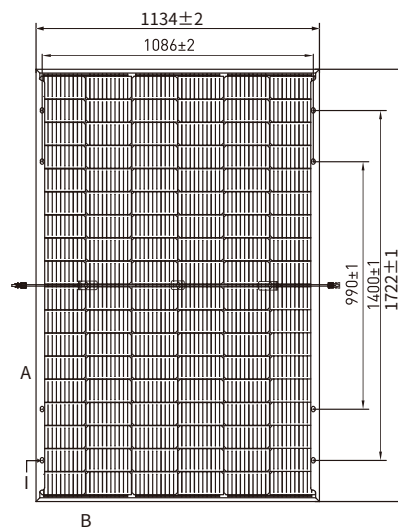
Temperature & Maximum Ratings

Nominal Module Operating Temperature (NMOT)	44 ± 2°C
Temperature Coefficient of VOC	-0.25% / °C
Temperature Coefficient of ISC	0.045% / °C
Temperature Coefficient of PMAX	-0.30% / °C
Operational Temperature	-40 °C ~ +85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	25A

Packaging Configuration

	40 FT (HQ)
Number of Modules Per Container	936
Number of Modules Per Pallet	36
Number of Pallets Per Container	26

Module Dimensions (mm)



I-V Curve

