

COTECH SOLAR · Back-Contact

CSBC72-630~660

N-Type Back-Contact Bifacial Dual-Glass Module · 144 half-cells

660 W_p

MAXIMUM
POWER OUTPUT

24.4 %

MAXIMUM
EFFICIENCY

Premium all-black design

- Pure all-black — no front gridlines
- Clean aesthetic for residential & C&I rooftops
- Black anodized frame and uniform appearance

Top efficiency & power

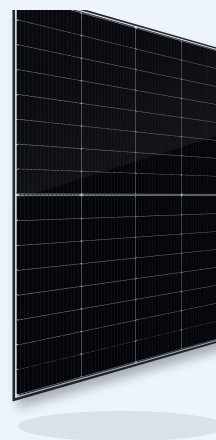
- Back-contact cells reach up to 24.4% efficiency
- Busbars moved to the rear — more active front area
- Highest energy density per square metre

High reliability & yield

- 15-year product & 30-year linear power warranty
- Superior shade tolerance and low-light output
- Low temperature coefficient $-0.28\%/^{\circ}\text{C}$ · PID / salt-mist resistant

Key specifications

Maximum power	630 – 660 Wp
Module efficiency	up to 24.4 %
Open-circuit voltage	49.50 – 50.40 V
Cell type	N-type back-contact (BC), 182mm
No. of cells	144 (6×24) half-cut
Dimensions (mm)	2382 × 1134 × 30
Weight	33.0 kg
Bifaciality	75 ± 5%



Back-Contact

0BB shadeless cells

All-Black

premium rooftop look

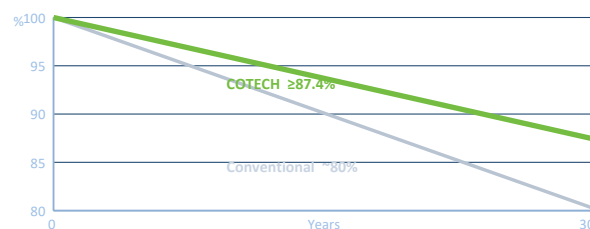
Bifacial

75 ± 5%

Glass · Glass

dual-glass 2.0 mm

PERFORMANCE WARRANTY



15-yr product

30-yr power

QUALITY ASSURANCE



EL & flash tested

100% inspected, binned & traceable

APPLICATIONS



Residential



C & I



Utility



Off-grid

QUALITY SYSTEM

ISO 9001

ISO 14001

ISO 45001

CERTIFICATION & QUALIFICATION

IEC 61215

IEC 61730

IEC 61701

IEC 62716

UL 61730

CE

TÜV

ISO 9001/14001/45001

TESTED

✓ Damp heat

✓ Thermal cycling

✓ Humidity-freeze

✓ PID

✓ Salt mist

✓ Ammonia

✓ Mechanical load

✓ Hail

Electrical characteristics at STC

Parameter	630	635	640	645	650	655	660
Maximum power P _{max} (W)	630	635	640	645	650	655	660
Open-circuit voltage Voc (V)	49.50	49.65	49.80	49.95	50.10	50.25	50.40
Short-circuit current Isc (A)	15.90	15.96	16.02	16.07	16.13	16.19	16.25
Voltage at P _{max} V _{mp} (V)	41.50	41.63	41.77	41.90	42.03	42.17	42.30
Current at P _{max} Imp (A)	15.18	15.25	15.32	15.39	15.47	15.53	15.60
Module efficiency η _m (%)	23.32	23.51	23.69	23.88	24.06	24.25	24.43

Electrical characteristics at NMOT

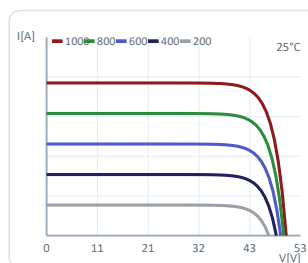
Parameter	630	635	640	645	650	655	660
Maximum power P _{max} (W)	475.6	479.4	483.2	487.0	490.8	494.5	498.3
Open-circuit voltage Voc (V)	46.13	46.27	46.41	46.55	46.69	46.83	46.97
Short-circuit current Isc (A)	12.75	12.80	12.85	12.89	12.94	12.98	13.03
Voltage at P _{max} V _{mp} (V)	38.51	38.63	38.76	38.88	39.00	39.13	39.25
Current at P _{max} Imp (A)	12.04	12.09	12.15	12.20	12.27	12.32	12.37

STC 1000 W/m² · 25 °C · AM1.5 — NMOT 800 W/m² · 20 °C · AM1.5 · 1 m/s — Power tolerance 0 ~ +3 %

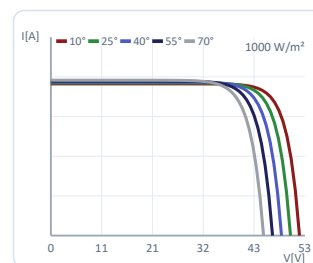
Parameter	Value
Solar cell	N-type back-contact (BC), 182mm
Cell size	182 × 91 mm
No. of cells	144 (6×24) half-cut
Busbar	Back-contact (busbar-free front)
Dimensions	2382 × 1134 × 30 mm
Weight	33.0 kg
Front / back glass	2.0 mm / 2.0 mm tempered, AR coated
Encapsulant	POE
Frame	Anodized aluminium alloy, 30 mm
Junction box	IP68, 3 bypass diodes
Connector	MC4-compatible · EVO2
Output cable	4 mm ² , 400/200 mm

Parameter	Value
NMOT	43 ± 2 °C
Temp. coeff. of P _{max}	-0.28 %/°C
Temp. coeff. of Voc	-0.24 %/°C
Temp. coeff. of Isc	+0.045 %/°C
Operating temperature	-40 °C ~ +85 °C

I-V curve · irradiance



I-V curve · temperature



Bifacial gain & coefficients

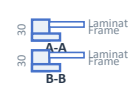
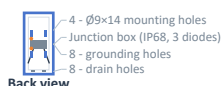
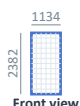
φVoc 98 ± 5% φIsc 75 ± 5% φPmax 75 ± 5%

Rear gain	+0%	+10%	+20%	+25%
P _{max} (W)	660	726	792	825
Isc (A)	16.25	17.88	19.50	20.31

Maximum ratings

Parameter	Value
Max system voltage	1500 V DC (IEC/UL)
Max series fuse	25 A
Max test load (front / back)	5400 Pa / 2400 Pa
Application / safety class	Class A / Class II
Fire rating	Class C

Mechanical drawing (mm)

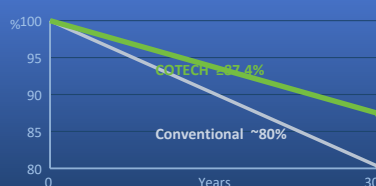


Linear power warranty

15 yr product warranty

30 yr linear power output warranty

1st-year ≤1% · annual ≤0.4% · ≥87.4% at year 30



Packaging

Pieces / pallet	31
Pieces / 20'GP	124
Pieces / 40'HC	620
Pallet size	2400 × 1150 × 1180 mm