

LTH series

450 - 470W

**210R-48 N-TOPCon
Dual-glass Bifacial Module**



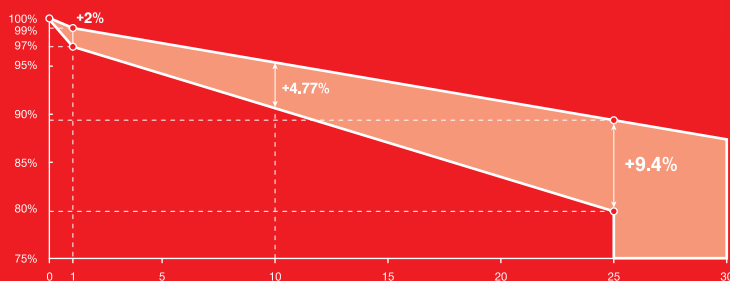
12 years product
workmanship warranty



30 years linear power output
warranty



1% 1st-year degradation
0.40% annual degradation



Conventional LESSO Solar Module

FEATURES AND BENEFITS



TOPCon technology, higher power generation.



High density packaging, improving energy density.



Even cloudy or foggy days, better weak illumination response.



Zero LID, increase power generation.



Better temperature coefficient, more power generation.



Higher power output, lower bos cost.



Multiple weather, resistance tests, wider applicability.



Double-sided generation, powerfully energy boost.

LESSO 210R N-TOPCon Dual-glass Bifacial Module (48)



Power Range
450W ~ 470W

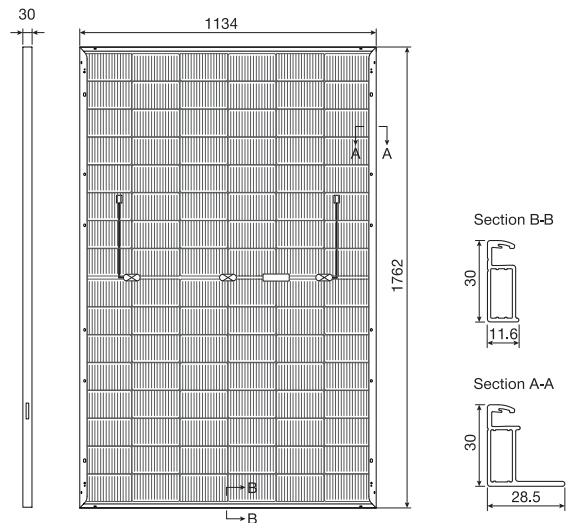


Maximum Efficiency
23.52%

(Unit: mm)

Structure Performance

Solar Cell Type	210R N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	96pcs(6x16)
Module Dimension	1762×1134×30mm
Weight	24.7kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm ² , portrait $\begin{smallmatrix} 400\text{mm}(+) \\ 200\text{mm}(-) \end{smallmatrix}$, landscape $\begin{smallmatrix} 1400\text{mm}(+) \\ 1400\text{mm}(-) \end{smallmatrix}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	PV-CO02-xy (Suzhou UKT New Energy Technology Co., Ltd.)
Per Pallet	36pcs
Per Container(40'HQ)	936pcs
Fire Rating	Class C



Electrical Performance Parameters

Model Type		450C(HBD)48(210R)	455C(HBD)48(210R)	460C(HBD)48(210R)	465C(HBD)48(210R)	470C(HBD)48(210R)
Nominal Max. Power	P_{MAX} (W)	450	455	460	465	470
Max. Power Voltage	V_{MP} (V)	30.19	30.34	30.48	30.63	30.79
Max. Power Current	I_{MP} (A)	14.91	15.00	15.09	15.19	15.28
Open Circuit Voltage	V_{OC} (V)	35.35	35.50	35.65	35.80	35.95
Short Circuit Current	I_{SC} (A)	15.92	16.00	16.08	16.16	16.25
Module Efficiency	(%)	22.52	22.77	23.02	23.27	23.52

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%, Power Selection 0~+ 5W.

Bifacial Nameplate Irradiance I BNPI

Model Type		450C(HBD)48(210R)	455C(HBD)48(210R)	460C(HBD)48(210R)	465C(HBD)48(210R)	470C(HBD)48(210R)
Nominal Max. Power	P_{MAX} (W)	497	502	508	513	519
Max. Power Voltage	V_{MP} (V)	30.20	30.34	30.48	30.62	30.78
Max. Power Current	I_{MP} (A)	16.46	16.55	16.67	16.76	16.87
Open Circuit Voltage	V_{OC} (V)	35.36	35.51	35.66	35.81	35.96
Short Circuit Current	I_{SC} (A)	17.56	17.65	17.74	17.83	17.93
BSI	I_{SC} (A)	19.56	19.67	19.77	19.87	19.97
BIFI		0.348	0.348	0.356	0.356	0.363

* BIFI: rear irradiance driven power gain yield.
BNPI: Irradiance Front side 1000W/m² Rear side 135W/m², Ambient Temperature 25°C, Air Mass AM 1.5.
BSI: Irradiance Front side 1000W/m² Rear side 300W/m², Ambient Temperature 25°C, Air Mass AM 1.5.

Performance at Low Irradiance

Model Type		450C(HBD)48(210R)	455C(HBD)48(210R)	460C(HBD)48(210R)	465C(HBD)48(210R)	470C(HBD)48(210R)
Nominal Max. Power	P_{MAX} (W)	88	89	90	91	92
Max. Power Voltage	V_{MP} (V)	29.49	29.63	29.77	29.92	30.07
Max. Power Current	I_{MP} (A)	2.99	3.01	3.03	3.05	3.07
Open Circuit Voltage	V_{OC} (V)	33.64	33.78	33.92	34.07	34.21
Short Circuit Current	I_{SC} (A)	3.20	3.22	3.23	3.25	3.27

* Performance at low irradiance: Irradiance 200W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Temperature Characteristics

Nominal Module Operating Temperature	44±2°C	Temperature Coefficient (V_{OC})	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	Temperature Coefficient (P_{MAX})	-0.30%

Maximum Parameters

Working Temperature	-40~+70(TH98)°C
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	35A

Bifaciality Coefficient

Tolerance/ φI_{SC}	80.00±4%
Tolerance/ φV_{OC}	99.00±3%
Tolerance/ φP_{MAX}	80.00±5%

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Data contained in these specifications is subject to change without notice.

Made in China and Indonesia