

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



Power Range  
**460W ~ 480W**

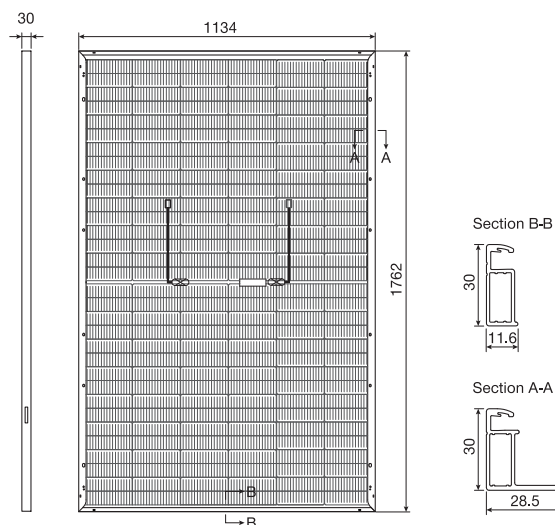


Maximum Efficiency  
**24.02%**

(Unit: mm)

## Structure Performance

|                        |                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------|
| Solar Cell Type        | 210R N-TOPCon Mono Cell (Quarter Cell)                                                                       |
| Solar Cell Arrangement | 192pcs(6×32)                                                                                                 |
| 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 <sup>2</sup> , portrait 400mm (+) 200mm (-), landscape 1400mm (+) 1400mm (-)<br>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            |                      | 460C(QBD)48(210R) | 465C(QBD)48(210R) | 470C(QBD)48(210R) | 475C(QBD)48(210R) | 480C(QBD)48(210R) |
|-----------------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Nominal Max. Power    | P <sub>MAX</sub> (W) | 460               | 465               | 470               | 475               | 480               |
| Max. Power Voltage    | V <sub>MPP</sub> (V) | 30.54             | 30.68             | 30.82             | 30.97             | 31.11             |
| Max. Power Current    | I <sub>MPP</sub> (A) | 15.07             | 15.16             | 15.25             | 15.34             | 15.43             |
| Open Circuit Voltage  | V <sub>OC</sub> (V)  | 35.43             | 35.61             | 35.79             | 35.97             | 36.15             |
| Short Circuit Current | I <sub>SC</sub> (A)  | 15.86             | 15.92             | 15.98             | 16.04             | 16.10             |
| Module Efficiency     | (%)                  | 23.02             | 23.27             | 23.52             | 23.77             | 24.02             |

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%, Power Selection 0~+ 5W.

## Bifacial Nameplate Irradiance I BNPI

| Model Type            |                      | 460C(QBD)48(210R) | 465C(QBD)48(210R) | 470C(QBD)48(210R) | 475C(QBD)48(210R) | 480C(QBD)48(210R) |
|-----------------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Nominal Max. Power    | P <sub>MAX</sub> (W) | 508               | 512               | 519               | 524               | 530               |
| Max. Power Voltage    | V <sub>MPP</sub> (V) | 30.60             | 30.74             | 30.90             | 31.03             | 31.18             |
| Max. Power Current    | I <sub>MPP</sub> (A) | 16.60             | 16.66             | 16.80             | 16.89             | 17.00             |
| Open Circuit Voltage  | V <sub>OC</sub> (V)  | 35.42             | 35.60             | 35.78             | 35.96             | 36.14             |
| Short Circuit Current | I <sub>SC</sub> (A)  | 17.51             | 17.58             | 17.64             | 17.71             | 17.77             |
| BSI                   | I <sub>SC</sub> (A)  | 19.52             | 19.59             | 19.68             | 19.74             | 19.82             |
| BIFI                  |                      | 0.356             | 0.348             | 0.364             | 0.364             | 0.371             |

\* BIFI: rear irradiance driven power gain yield.

BNPI: Irradiance Front side 1000W/m<sup>2</sup> Rear side 135W/m<sup>2</sup>, Ambient Temperature 25°C, Air Mass AM 1.5.

BSI: Irradiance Front side 1000W/m<sup>2</sup> Rear side 300W/m<sup>2</sup>, Ambient Temperature 25°C, Air Mass AM 1.5.

## Performance at Low Irradiance

| Model Type            |                      | 460C(QBD)48(210R) | 465C(QBD)48(210R) | 470C(QBD)48(210R) | 475C(QBD)48(210R) | 480C(QBD)48(210R) |
|-----------------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Nominal Max. Power    | P <sub>MAX</sub> (W) | 90                | 91                | 92                | 93                | 94                |
| Max. Power Voltage    | V <sub>MPP</sub> (V) | 29.83             | 29.97             | 30.10             | 30.25             | 30.39             |
| Max. Power Current    | I <sub>MPP</sub> (A) | 3.02              | 3.04              | 3.06              | 3.08              | 3.10              |
| Open Circuit Voltage  | V <sub>OC</sub> (V)  | 33.71             | 33.89             | 34.06             | 34.23             | 34.40             |
| Short Circuit Current | I <sub>SC</sub> (A)  | 3.19              | 3.20              | 3.21              | 3.23              | 3.24              |

\* Performance at low irradiance: Irradiance 200W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

## Temperature Characteristics

|                                            |         |                                             |        |
|--------------------------------------------|---------|---------------------------------------------|--------|
| Nominal Module Operating Temperature       | 44±2°C  | Temperature Coefficient (V <sub>OC</sub> )  | -0.25% |
| Temperature Coefficient (I <sub>SC</sub> ) | +0.043% | Temperature Coefficient (P <sub>MAX</sub> ) | -0.30% |

## Maximum Parameters

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

## Bifaciality Coefficient

|                 |          |
|-----------------|----------|
| Tolerance/ϕIsc  | 80.00±4% |
| Tolerance/ϕVoc  | 99.00±3% |
| Tolerance/ϕPmax | 80.00±5% |

Guangdong Lesso Banhao New Energy Technology Group Co., Ltd.

The 1st and 2nd floors of the workshop in Zone 2, No. 58, Longzhou West Road, Longjiang Town, Shunde District, Foshan City, 528318 Guangdong, P.R.China

info@lessosolar.com



LESSO Solar

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

Made in China and Indonesia