

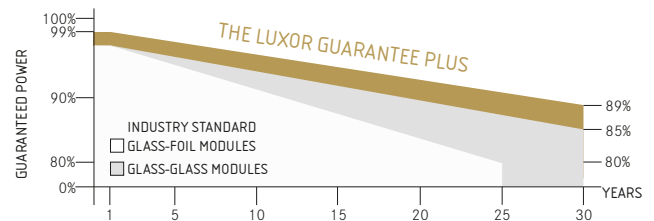
- + NON-REFLECT: SPECIAL GLASS FOR LEAST REFLECTION
- + POWERFUL N-TYPE TOPCON CELLS
- + BIFACIAL: DOUBLE-SIDED POWER GENERATION FOR MORE YIELD
- + DOUBLE GLASS: HIGHER MECHANICAL AND THERMAL STABILITY
- + APPLICATION: WHEREVER LONGEVITY AND ROBUSTNESS ARE REQUIRED



product guarantee<sup>1</sup>



linear performance guarantee<sup>1</sup>



## ECO LINE TOPCON GG BIFACIAL NON REFLECT

### M96 / 460 - 480W

MONOCRYSTALLINE MODULE FAMILY, WHITE MESH, BLACK FRAME



Longlife tested



Power proofed



Safety provided



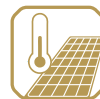
Selection of components



Back glass



Performance surplus of 0 Wp to 6.49 Wp



Higher heat dispensing



PID free  
LID Free



German warrantor

# ECO LINE TOPCON GLASS-GLASS BIF NON REFLECT

## M96 / 460 - 480 W, BLACK FRAME, WHITE MESH

Module type LX - XXXM/182R-96+ GG | XXX = Rated power Pmpp

### Electrical data at STC

	460.00	465.00	470.00	475.00	480.00
Rated power Pmpp [Wp]	460.00	465.00	470.00	475.00	480.00
Pmpp range to	466.49	471.49	476.49	481.49	486.49
Rated current Impp [A]	15.37	15.46	15.55	15.64	15.73
Rated voltage Vmpp [V]	29.96	30.10	30.24	30.39	30.54
Short-circuit current Isc [A]	16.25	16.34	16.44	16.53	16.63
Open-circuit voltage Uoc [V]	36.27	36.44	36.61	36.79	36.97
Efficiency at STC up to	23.35%	23.60%	23.85%	24.10%	24.35%
Efficiency at 200 W/m <sup>2</sup>	22.80%	23.04%	23.28%	23.54%	23.79%

### Electrical data at NOCT

	346.66	350.42	354.19	357.96	361.73
Power at Pmpp [Wp]	346.66	350.42	354.19	357.96	361.73
Rated current Impp [A]	12.41	12.48	12.55	12.62	12.70
Rated voltage Vmpp [V]	27.93	28.08	28.22	28.36	28.48
Short-circuit current Isc [A]	13.12	13.19	13.27	13.34	13.42
Open-circuit voltage Uoc [V]	33.48	33.65	33.81	33.99	34.17

Specification as per STC (Standard test conditions): irradiance 100W/m<sup>2</sup> | module temperature 25°C | Air Mass = 1.5  
 NOCT (nominal operating cell temperature): irradiance 800W/m<sup>2</sup> | wind speed 1 m/sec | ambient temperature 20°C |  
 cell operating temperature 45 +/- 2°C | Air Mass = 1.5

### Bifacial Gain\* (e.g. 470 Wp)

	5%	10%	15%	20%	25%
Backside power gain [Wp]	5%	10%	15%	20%	25%
Rated power Pmpp [Wp]	493.50	517.00	540.50	564.00	587.50
Rated current Impp [A]	16.32	17.10	17.87	18.64	19.42
Rated voltage Vmpp [V]	30.24	30.24	30.24	30.25	30.25
Short-circuit current Isc [A]	17.26	18.08	18.91	19.73	20.55
Open-circuit voltage Uoc [V]	36.61	36.61	36.61	36.62	36.62

\*depending on the reflection of the underlying surface

### Limiting values

Max. system voltage   max. return current	1000 V or 1500 V   30 A
Safety class   Fire safety class	II   C (IEC 61730)
Operating temperature	-40 up to 85°C
Max. tested pressure/tensile load <sup>2</sup>	5400 Pa / 2400 Pa

### Temperature coefficient

Temperature coefficient [U]   [I]   [P]	-0.25 %/°C   0.045 %/°C   -0.29 %/°C
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### Specifications

Cells (matrix)   Wafer   Type	96 (6x16)   M10   N-Type TOPCon
Module dimensions (L x W x H)3   Weight	1762 mm x 1134 mm x 30 mm   24.5 kg
Bifaciality factor <sup>5</sup>	Up to 80%
Front side	2.0 mm special solar glass with Non Reflect technology
Back side	2.0 mm highly transparent glass, white mesh
Frame	Stable anodised aluminium frame
Embedding material	POE / EVA
Junction Box   Diodes	At least IP67   3 Schottky Diodes
Cable	Symmetrical cable lengths > 1.1 m, 4 mm <sup>2</sup> solar cable
Connectors	MC4 or equivalent (IP67)
Hail test (max. hailstorm)	Ø 45 mm   impact velocity 23 m/s ± 83 km/h

The specifications and average values can vary slightly. Relevant is the corresponding data of the individual measurement. Specifications are subject to change without notice. Measurement tolerance depending on equipment: rated power +/- 3%, other values +/- 10%. All information given in this data sheet corresponds to DIN EN 50380. A potential light-induced degradation of the power after commissioning is not considered here.

Further information in the installation manuals.

1 The specific warranty conditions are given under [www.luxor.solar/downloads.html](http://www.luxor.solar/downloads.html)

2 Horizontal mounted (IEC61215), for details please check mounting instruction

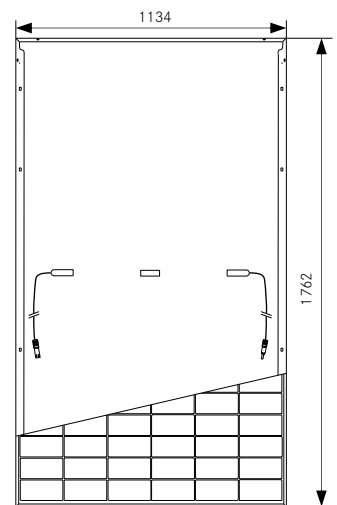
3 Tolerance L/W = +/- 3 mm, H +/- 2 mm, the dimensions given in the order confirmation will be decisive

4 Location and dimensions of holes on request

5 N-Type TOPCon Bifaciality factor 77 +/- 3 %

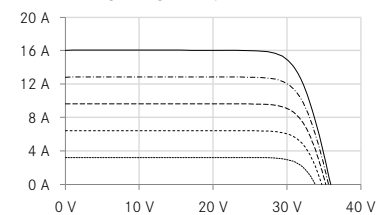
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### Back - / Frontview<sup>3,4</sup>

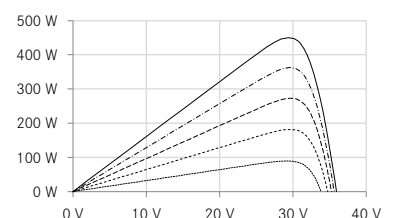


### Electrical characteristics

UI-diagram e.g. 475 Wp



UP-diagram e.g. 475 Wp



..... 200W/m<sup>2</sup>  
 ..... 400W/m<sup>2</sup>  
 ..... 600W/m<sup>2</sup>  
 ..... 800W/m<sup>2</sup>  
 ..... 1000W/m<sup>2</sup>



Guidelines:

93/68/EEC

2014/35/EU, (LVD)

2014/30/EU, (EMC)

The validity of the certificates/listings for a specific country has to be examined under:

[www.luxor.solar/downloads.html](http://www.luxor.solar/downloads.html)