

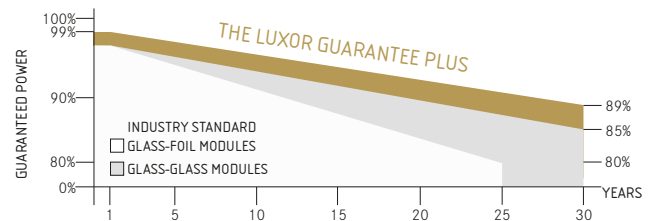
- + POWERFUL N-TYPE TOPCON CELLS
- + DOUBLE GLASS: HIGHER MECHANICAL STABILITY AND FIRE SAFETY
- + BIFACIAL: DOUBLE-SIDED POWER GENERATION FOR MORE YIELD
- + REDUCTION OF BALANCE-OF-SYSTEM-COSTS THROUGH HIGHER PERFORMANCE PER MODULE
- + APPLICATION: WHEREVER LONGEVITY AND ROBUSTNESS ARE REQUIRED



product guarantee¹



linear performance guarantee¹



ECO LINE N-TYPE TOPCON GLASS-GLASS BIF

M108 / 440 - 460W

MONOCRYSTALLINE N-TYPE MODULE FAMILY, WHITE MESH, BLACK FRAME



Longlife tested



Power proofed



Safety provided



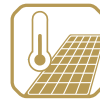
Selection of components



Back glass



Performance surplus of 0 Wp to 6.49 Wp



Higher heat dispensing



PID free
LID Free



German warrantor

ECO LINE N-TYPE TOPCON GLASS-GLASS BIF

M108 / 440 - 460 W, WHITE MESH, BLACK FRAME

Module type LX - XXX M/182-108+ GG | XXX = Rated power Pmpp

Electrical data at STC

	440.00	445.00	450.00	455.00	460.00
Rated power Pmpp [Wp]	440.00	445.00	450.00	455.00	460.00
Pmpp range to	446.49	451.49	456.49	461.49	466.49
Rated current Impp [A]	13.65	13.72	13.79	13.86	13.93
Rated voltage Vmpp [V]	32.27	32.46	32.65	32.85	33.05
Short-circuit current Isc [A]	14.40	14.47	14.55	14.62	14.69
Open-circuit voltage Uoc [V]	39.07	39.30	39.53	39.77	40.01
Efficiency at STC up to	22.86%	23.12%	23.38%	23.63%	23.89%
Efficiency at 200 W/m ²	22.32%	22.56%	22.81%	23.07%	23.33%

Electrical data at NOCT

	331.58	335.35	339.12	342.89	346.66
Power at Pmpp [Wp]	331.58	335.35	339.12	342.89	346.66
Rated current Impp [A]	11.02	11.07	11.13	11.19	11.24
Rated voltage Vmpp [V]	30.09	30.29	30.47	30.64	30.84
Short-circuit current Isc [A]	11.62	11.68	11.74	11.80	11.86
Open-circuit voltage Uoc [V]	36.06	36.29	36.51	36.74	36.98

Specification as per STC (Standard test conditions): irradiance 1000W/m² | module temperature 25°C | Air Mass = 1.5
 NOCT (nominal operating cell temperature): irradiance 800W/m² | wind speed 1 m/sec | ambient temperature 20°C | cell operating temperature 45 +/-2°C | Air Mass = 1.5

Bifacial Gain* (e.g.445 Wp)

	5%	10%	15%	20%	25%
Backside power gain [Wp]	5%	10%	15%	20%	25%
Rated power Pmpp [Wp]	467.25	489.50	511.75	534.00	556.25
Rated current Impp [A]	14.39	15.08	15.77	16.45	17.13
Rated voltage Vmpp [V]	32.46	32.46	32.46	32.47	32.47
Short-circuit current Isc [A]	15.19	15.92	16.64	17.36	18.09
Open-circuit voltage Uoc [V]	39.30	39.30	39.30	39.31	39.31

*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 (according to IEC 61730)
Operating Temperature	-40 up to 85°C
Max. tested pressure load-/tensile ²	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

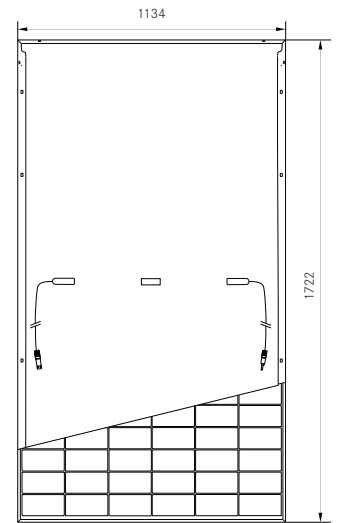
Cells (matrix) Wafer Type	108 (6 x 18) M10 N-Type Topcon
Bifaciality factor ⁵	Up to 80 %
Module dimensions (L x W x H) ³ Weight	1722 mm x 1134 mm x 30 mm 24 kg
Front-side glass	2 mm highly transparent, anti-reflection solar glass
Back-side	2 mm highly transparent solar glass, white mesh
Frame	Stable, 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 ² solar cable
Connectors	MC4 or equivalent with 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.

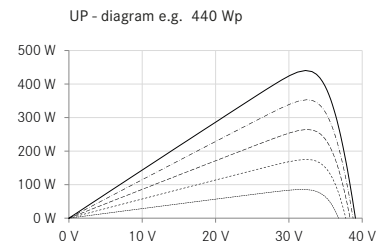
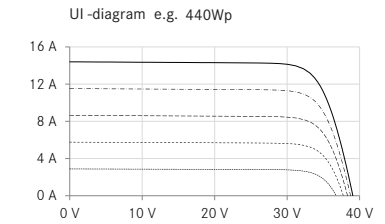
- The specific warranty conditions are given under www.luxor.solar/downloads.html
- Horizontal mounted, for details please check mounting instruction
- Tolerance L/W = +/- 3 mm, H +/- 2 mm, the dimensions given in the order confirmation will be decisive
- Location and dimensios of holes on request
- N-Type Topcon Bifaciality 77 % +/- 3 %

Luxor, your specialised company

Back - / Frontview^{3,4}



Electrical characteristics



----- 200W/m²
 - - - - 400W/m²
 - - - - 600W/m²
 - - - - 800W/m²
 ——— 1000W/m²



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