

## AXIblackbiperfect GL 440 - 450 Wp

High performance bifacial solar module  
108 halfcell, glass/glass, N-Type TOPCon



German-Australian-Engineering

### The advantages:



30 years Manufacturer's warranty and Performance guarantee



Up to 30 % more power output by Bifacial-Technology



More performance through innovative N-Type TOPCon-Technology



PID reduced through glass/glass-Technology



Increased safety through improved fire protection

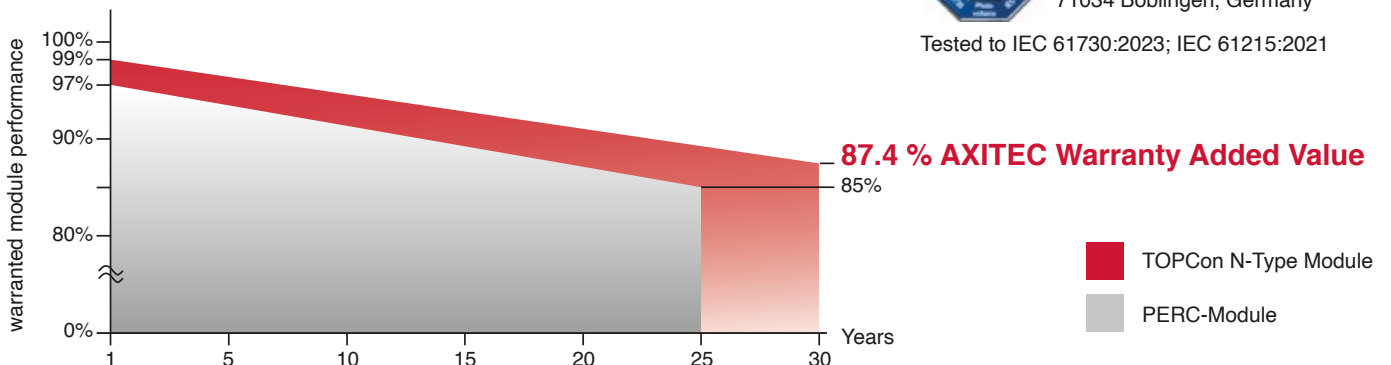


Guaranteed positive power tolerance from 0-5 Wp by individual measurement



Fig. similar 108TGBLAU240808A

### Exclusive linear AXITEC high performance guarantee!



Lisence holder:  
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Tested to IEC 61730:2023; IEC 61215:2021

# AXIblackbiperfect GL 440 - 450 Wp

## Electrical data

at standard conditions (STC): irradiance 1000 W/m<sup>2</sup>, spectrum AM 1.5 at a cell temperature of 25°C

Type	AC-440TGBL/108BBA	AC-445TGBL/108BBA	AC-450TGBL/108BBA
Nominal output	440 Wp	445 Wp	450 Wp
Nominal voltage U <sub>mpp</sub>	32.74 V	32.99 V	33.23 V
Nominal current I <sub>mpp</sub>	13.44 A	13.49 A	13.54 A
Short circuit current I <sub>sc</sub>	14.13 A	14.19 A	14.25 A
Open circuit voltag U <sub>oc</sub>	39.42 V	39.70 V	39.98 V
Module conversion efficiency	22.02 %	22.27 %	22.52 %

at BNPI test conditions: irradiance frontside 1000 W/m<sup>2</sup>, backside 135 W/m<sup>2</sup>, with spectrum AM 1,5 at a cell temperature of 25°C

Nominal output P <sub>mpp</sub>	485 Wp	491 Wp	496 Wp
Short circuit current I <sub>sc</sub>	15.58 A	15.64 A	15.71 A
Open circuit voltag U <sub>oc</sub>	39.42 V	39.70 V	39.98 V

Bifacial coefficients: φU<sub>oc</sub> 0,98±5%; φI<sub>sc</sub> 0,80±10%; φP<sub>mpp</sub> 0,80±10%

with 5 % bifacial gain:

Nominal output P <sub>mpp</sub>	462 Wp	467 Wp	472 Wp
Nominal voltage U <sub>mpp</sub>	32,74 V	32.99 V	33.23 V
Nominal current I <sub>mpp</sub>	14.11 A	14.16 A	14.22 A
Short circuit current I <sub>sc</sub>	14.84 A	14.90 A	14.96 A
Open circuit voltag U <sub>oc</sub>	39.42 V	39.70 V	39.98 V

\*The bifacial gain is the additional gain from the back side of PV. It depends on the mounting method, orientation, tilt angle of the PV module and the albedo of the ground.

## Design

Frontside	1.6 mm low-reflection white glass
Backside	1.6 mm glass, cell spaces black
Cells	108 N-Type TOPCon bifacial high efficiency cells
Frame	30 mm black aluminium frame

## Mechanical data

L x W x H	1762 x 1134 x 30 mm
Weight	21.6 kg with frame

## Mechanical load

Design load (pressure/suction)	3600 Pa / 1600 Pa
Test load (pressure/suction)	5400 Pa / 2400 Pa

## Power connection

Socket	Protection Class IP68, 3 bypass diodes
Wire	approx. 1.2 m, 4 mm <sup>2</sup>
Plug-in system	IP68, Stäubli MC4 PV-KST4-EVO 2 / PV-KBT4-EVO 2

## Limit values

System voltage	1500 VDC
NOCT (nominal operating cell temperature)*	45°C +/-2°C
Max Series Fuse Current	30.0 A

Permissible operating temp. -40°C to 85°C / -40F to 185F  
Fire class / Protection class C (UL790) / II

(No external voltages greater than U<sub>oc</sub> may be applied to the module)

\* NOCT, irradiance 800 W/m<sup>2</sup>; AM 1.5; wind speed 1 m/s; Temperature 20°C

## Temperature coefficients

Voltage U <sub>oc</sub>	-0.26 %/°C
Current I <sub>sc</sub>	0.046 %/°C
Output P <sub>mpp</sub>	-0.31 %/°C

## Low-light performance without Bifacial-effect

(Example for AC-450TGBL/108BBA)

I-U characteristic curve	Current I <sub>pp</sub>	Voltage U <sub>pp</sub>
200 W/m <sup>2</sup>	2.77 A	31.99 V
400 W/m <sup>2</sup>	5.58 A	32.36 V
600 W/m <sup>2</sup>	8.34 A	32.61 V
800 W/m <sup>2</sup>	11.03 A	32.89 V
1000 W/m <sup>2</sup>	13.54 A	33.23 V

## Packaging

Module pieces per pallet	36
Module pieces per HC-container	936

country of origin:  
made in People's Republic of China

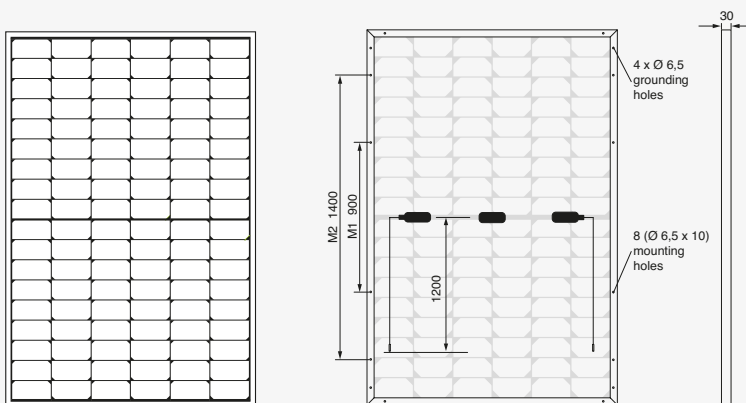


Fig. principle sketch

All dimensions in mm