

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

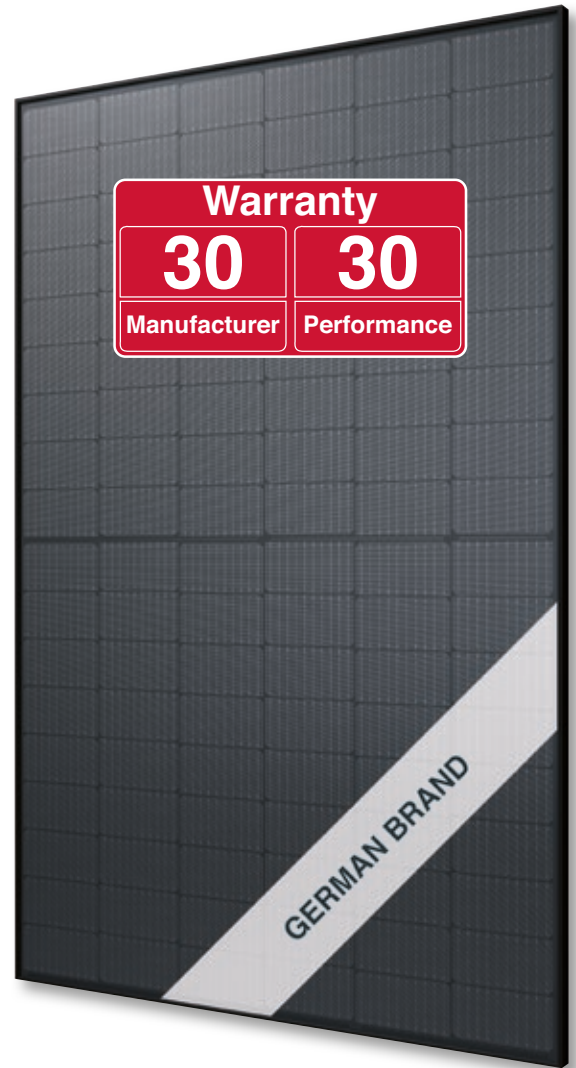
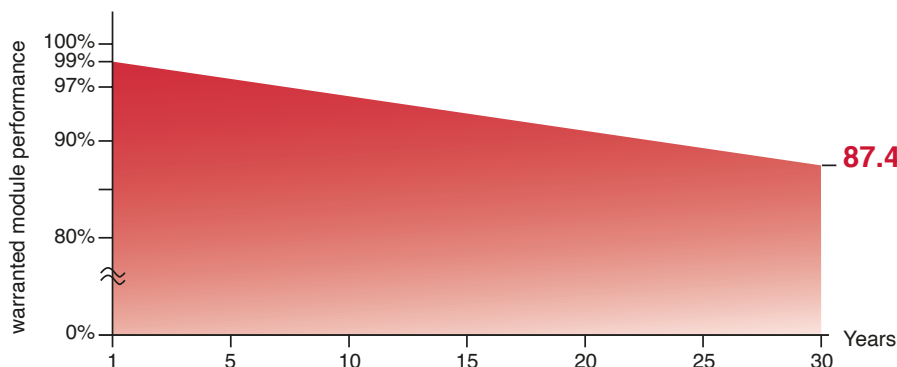


Fig. similar 108TGBLAUS250324A

Exclusive linear AXITEC high performance guarantee!



87.4 % AXITEC Warranty Added Value

TOPCon N-Type Module
PERC-Module



Lisence holder:
AXITEC Energy GmbH & Co. KG
Otto-Lilienthal-Str. 5
71034 Böblingen, Germany

Tested to IEC 61730:2023; IEC 61215:2021

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Electrical data

at standard conditions (STC): irradiance 1000 W/m², 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 _{mp} | 32.74 V | 32.99 V | 33.23 V | | |
| Nominal current I _{mp} | 13.44 A | 13.49 A | 13.54 A | | |
| Short circuit current I _{sc} | 14.13 A | 14.19 A | 14.25 A | | |
| Open circuit voltage U _{oc} | 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/m², backside 135 W/m², with spectrum AM 1,5 at a cell temperature of 25°C

| | | | | | |
|---------------------------------------|---------|---------|---------|--|--|
| Nominal output P _{mp} | 485 Wp | 491 Wp | 496 Wp | | |
| Short circuit current I _{sc} | 15.58 A | 15.64 A | 15.71 A | | |
| Open circuit voltage U _{oc} | 39.42 V | 39.70 V | 39.98 V | | |

Bifacial coefficients: ϕ_{Uoc} 0,98±5%; ϕ_{Isc} 0,80±10%; ϕ_{Pmp} 0,80±10%

with 5 % bifacial gain:

| | | | | | |
|---------------------------------------|---------|---------|---------|--|--|
| Nominal output P _{mp} | 462 Wp | 467 Wp | 472 Wp | | |
| Nominal voltage U _{mp} | 32,74 V | 32.99 V | 33.23 V | | |
| Nominal current I _{mp} | 14.11 A | 14.16 A | 14.22 A | | |
| Short circuit current I _{sc} | 14.84 A | 14.90 A | 14.96 A | | |
| Open circuit voltage U _{oc} | 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 ² |
| Plug-in system | IP68, PV-KST4-EVO2A/xy,PV-KBT4-EVO2A/xy |

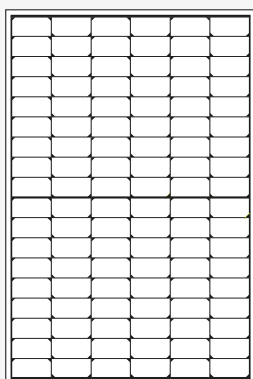
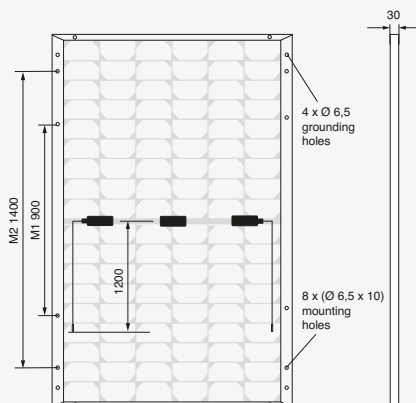


Fig. principle sketch



All dimensions in mm

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 / -40°F to 185°F |
| Fire class / Protection class | C (UL790) / II |

(No external voltages greater than U_{oc} may be applied to the module)

* NOCT, irradiance 800 W/m²; AM 1.5; wind speed 1 m/s; Temperature 20°C

Temperature coefficients

| | |
|-------------------------|------------|
| Voltage U _{oc} | -0.26 %/°C |
| Current I _{sc} | 0.046 %/°C |
| Output P _{mp} | -0.31 %/°C |

Low-light performance without Bifacial-effect

(Example for AC-450TGBL/108BBA)

| I-U characteristic curve | Current I _{pp} | Voltage U _{pp} |
|--------------------------|-------------------------|-------------------------|
| 200 W/m ² | 2.77 A | 31.99 V |
| 400 W/m ² | 5.58 A | 32.36 V |
| 600 W/m ² | 8.34 A | 32.61 V |
| 800 W/m ² | 11.03 A | 32.89 V |
| 1000 W/m ² | 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

