

AXIworldbiperfect GXXL

580 - 590 Wp

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



German-American-Engineering

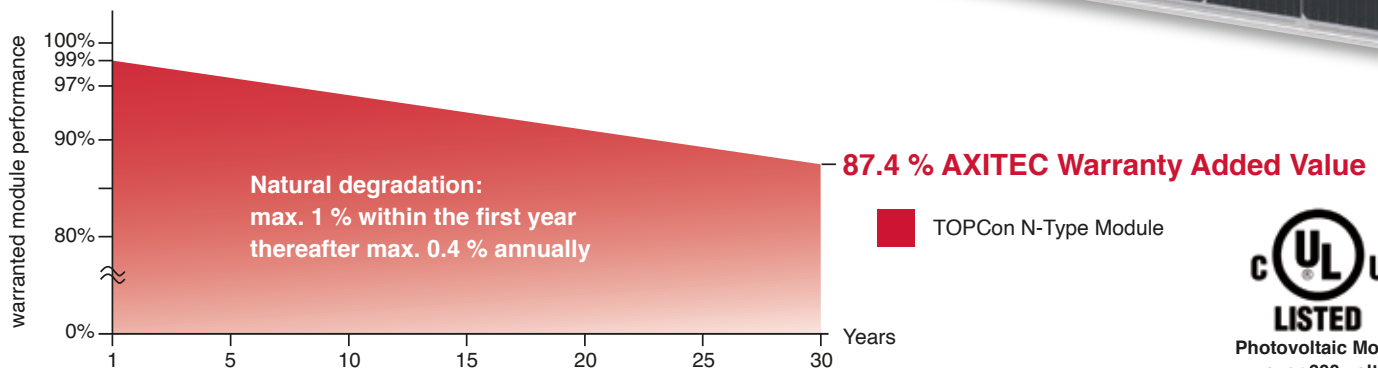
The advantages:

- 30 Years** 30 years Manufacturer's warranty and Performance guarantee
- +30%** Up to 30 % more power output by Bifacial-Technology
- TOP** More performance through innovative N-Type TOPCon-Technology
- PID less** PID reduced through glass/glass-Technology
- Safe** Increased safety through improved fire protection
- + Wp** Positive power sorting from 0-5 Wp



Fig. similar 144TGBUSA250603M/A-164/1

Exclusive linear AXITEC high performance guarantee!



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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-580TGB/144TS	AC-585TGB/144TS	AC-590TGB/144TS		
Nominal output	580 Wp	585 Wp	590 Wp		
Nominal voltage U _{mpp}	42.56 V	42.72 V	42.87 V		
Nominal current I _{mpp}	13.63 A	13.70 A	13.77 A		
Short circuit current I _{sc}	14.34 A	14.41 A	14.48 A		
Open circuit voltage U _{oc}	51.43 V	51.58 V	51.70 V		
Module conversion efficiency	22.45 %	22.65 %	22.84 %		

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 _{mpp}	643 Wp	649 Wp	654 Wp		
Short circuit current I _{sc}	15.90 A	15.97 A	16.05 A		
Open circuit voltage U _{oc}	51.45 V	51.60 V	51.72 V		

Bifacial coefficients: ϕU_{oc} 0.98±5%; ϕI_{sc} 0.80±10%; ϕP_{mpp} 0.80±10%

Design

Frontside	2.0 mm low-reflection white glass
Backside	2.0 mm glass, cell spaces transparent
Cells	144 N-Type TOPCon bifacial high efficiency cells
Frame	1.18 inch (30 mm) silver aluminium frame

Mechanical data

L x W x H	89.69 x 44.65 x 1.18 inch (2278 x 1134 x 30 mm)
Weight	68.34 lbs (31.0 kg) with frame

Mechanical load

Design load (pressure/suction)	75.3 PSF / 33.3 PSF *
Test load (pressure/suction)	113 PSF / 50 PSF *

* depending on the type of installation according to the installation instructions

Power connection

Socket	Protection Class IP68, 3 bypass diodes
Wire	51.18 inch, AWG 12
Plug-in system	Plug/socket IP68, Stäubli MC4-EVO 2

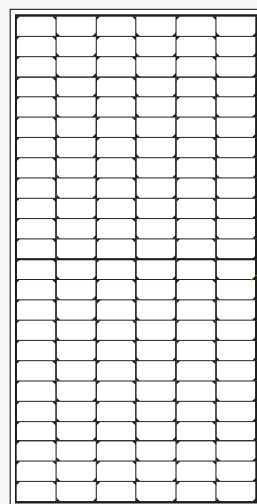
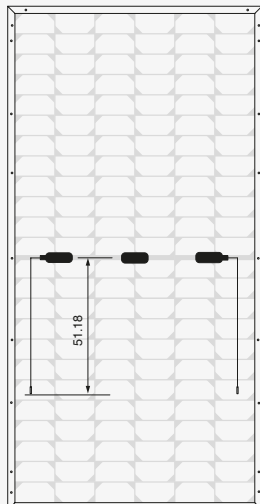


Fig. principle sketch



All dimensions in inch

Limit values

System voltage	1500 VDC (UL) 1500 VDC (IEC)
Module Fire Performance	TYPE 29 (UL 1703) or CLASS C (IEC 61730)
Protection class	II

NOCT (nominal operating cell temperature)*	45°C +/-2K
Reverse current feed IR	30.0 A

Permissible operating temp. -40°C to 85°C / -40F to 185F

(No external voltages greater than V_o 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}	-0.25 %/K
Current I _{sc}	0.046 %/K
Output P _{mpp}	-0.30 %/K

Low-light performance

without Bifacial-effect
(Example for AC-590TGB/144TS)

I-U characteristic curve	Current I _{pp}	Voltage U _{pp}
200 W/m²	2.81 A	41.26 V
400 W/m²	5.68 A	41.73 V
600 W/m²	8.48 A	42.06 V
800 W/m²	11.21 A	42.42 V
1000 W/m²	13.77 A	42.87 V

Packaging

Module pieces per pallet	36
Module pieces per HC-container	720

