AXIworldbiperfect GXXL

580 - 590 Wp

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

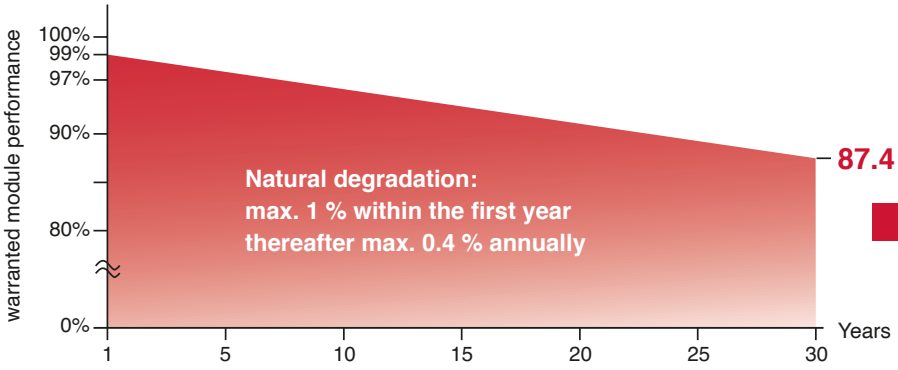
German-American-Engineering

Fig. similar 144TGBUSA250603MiA-164/1

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

Exclusive linear AXITEC high performance guarantee!



87.4 % AXITEC Warranty Added Value

TOPCon N-Type Module

c UL us LISTED
Photovoltaic Module
over 600 volts
E532265

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AXIworldbiperfect GXXL 580 - 590 Wp

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 Umpp	42.56 V	42.72 V	42.87 V		
Nominal current Impp	13.63 A	13.70 A	13.77 A		
Short circuit current Isc	14.34 A	14.41 A	14.48 A		
Open circuit voltag Uoc	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 Pmpp	643 Wp	649 Wp	654 Wp		
Short circuit current Isc	15.90 A	15.97 A	16.05 A		
Open circuit voltag Uoc	51.45 V	51.60 V	51.72 V		

Bifacial coefficients: φUoc 0.98±5%; φIsc 0.80±10%; φPmpp 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

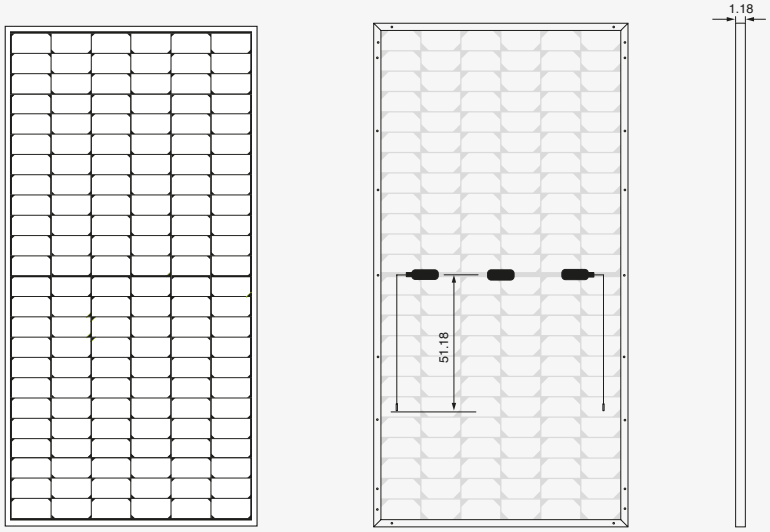

Fig. principle sketch

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 Vo 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 Uoc	-0.25 %/K
Current Isc	0.046 %/K
Output Pmpp	-0.30 %/K

Low-light performance without Bifacial-effect

(Example for AC-590TGB/144TS)

I-U characteristic curve	Current Ipp	Voltage Upp
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

Technical data are subject to change without prior notice, errors excepted. The measurement tolerances are +/-3%. Please be aware: All technical data provided in our data sheets are property of Axitec LLC and intended for information purposes for our customers only. We cannot accept any guarantee of completeness or accuracy. These data are prohibited for any kind of commercial use.