



390 - 415 Wp

AXIbiprotect XXL HC BLK

High performance bifacial solar module
108 halfcell, glas/glas, monocrystalline

The advantages:








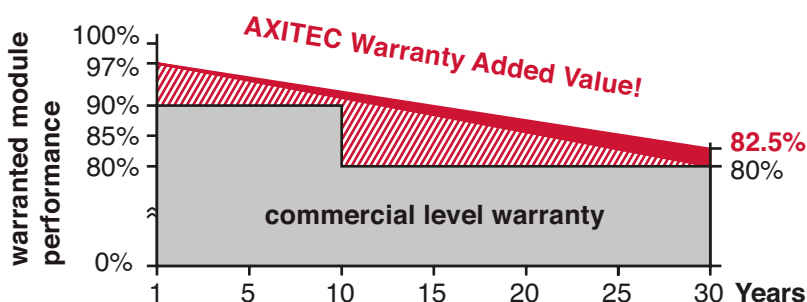
- 
15 years Manufacturer's warranty
- 
Up to 25 % more power output by Bifacial-Technology
- 
PID reduced through glas/glas-Technologie
- 
Guaranteed positive power tolerance from 0-5 Wp by individual measurement
- 
100% visual electroluminescence inspection in production
- 
Increased safety through improved fire protection
- 
High stability due to innovative frame design



Fig. similar 108MBEN220113A

Exclusive linear AXITEC high performance guarantee!

- 15 years manufacturer's guarantee on 90 % of the nominal performance
- 30 years manufacturer's guarantee on 82.5% of the nominal performance



AXIbiprotect XXL HC BLK 390 - 415 Wp



Electrical data (at standard conditions (STC) irradiance 1000 watt/m², spectrum AM 1.5 at a cell temperature of 25°C)

| Type | AC-390MB/108V | AC-395MB/108V | AC-400MB/108V | AC-405MB/108V | AC-410MB/108V | AC-415MB/108V |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Nominal output | 390 Wp | 395 Wp | 400 Wp | 405 Wp | 410 Wp | 410 Wp |
| Nominal voltage U _{mpp} | 30.64 V | 30.84 V | 31.01 V | 31.21 V | 31.45 V | 31.61 V |
| Nominal current I _{mpp} | 12.73 A | 12.81 A | 12.90 A | 12.98 A | 13.04 A | 13.13 A |
| Short circuit current I _{sc} | 13.61 A | 13.70 A | 13.79 A | 13.87 A | 13.95 A | 14.02 A |
| Open circuit voltag U _{oc} | 36.85 V | 36.98 V | 37.07 V | 37.23 V | 37.32 V | 37.45 |
| Module conversion efficiency | 19.97 % | 20.23 % | 20.49 % | 20.75 % | 21.00 % | 21.25% |

Bifacial output - Backside Power gain

| | | | | | | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 10% Power output | 429.00 Wp | 434.50 Wp | 440.00 Wp | 445.50 Wp | 451.00 Wp | 456.50 Wp |
| Module Efficiency | 21.97 % | 22.25 % | 22.53 % | 22.81 % | 23.10 % | 23.38% |
| 15% Power output | 448.50 Wp | 454.25 Wp | 460.00 Wp | 465.75 Wp | 471.50 Wp | 477.25 Wp |
| Module Efficiency | 22.97 % | 23.62 % | 23.56 % | 23.85 % | 24.15 % | 24.44 % |
| 20% Power output | 468.00 Wp | 474.00 Wp | 480.00 Wp | 486.00 Wp | 492.00 Wp | 498.00 Wp |
| Module Efficiency | 23.97 % | 24.27 % | 24.58 % | 24.89 % | 25.20 % | 25.50 % |
| 25% Power output | 487.50 Wp | 493.75 Wp | 500.00 Wp | 506.25 Wp | 512.50 Wp | 518.75 Wp |
| Module Efficiency | 24.96 % | 25.28 % | 25.60 % | 25.93 % | 26.25 % | 26.57 % |

Design

| | |
|-----------|---|
| Frontside | 2.0 mm hardened, low-reflection white glass |
| Backside | 2.0 mm hardened, low-reflection white glass |
| Cells | 108 monocrystalline high efficiency cells |
| Film | Composite film (transparent) |
| Frame | 30 mm black aluminium frame |

Mechanical data

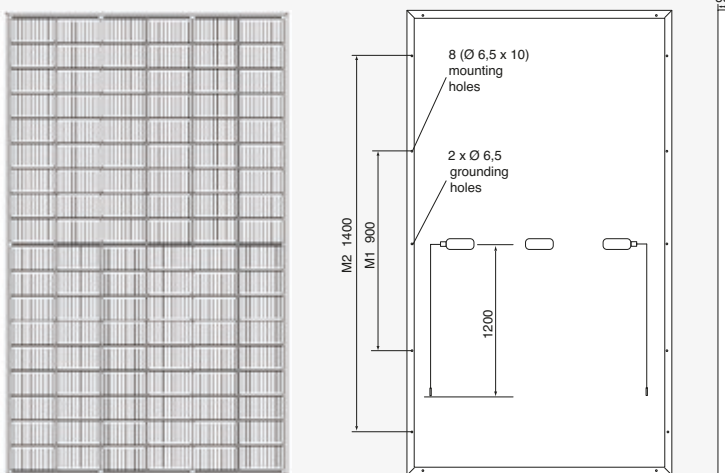
| | |
|-----------|---------------------|
| L x W x H | 1722 x 1134 x 30 mm |
| Weight | 26.0 kg with frame |

Mechanical load

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

Power connection

| | |
|----------------|---|
| Socket | Protection Class IP68 |
| Wire | approx. 1.2 m, 4 mm ² |
| Plug-in system | Plug/socket IP68, Stäubli EVO2 / EVO2 pluggable |



All dimensions in mm

Limit values

| | |
|--|------------------------------|
| System voltage | 1500 VDC |
| NOCT (nominal operating cell temperature)* | 45°C +/-2K |
| Reverse current feed IR | 25.0 A |
| Permissible operating temperature | -40°C to 85°C / -40F to 185F |

| | |
|-------------|-------------|
| Bifaciality | 70 % ± 10 % |
|-------------|-------------|

(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} | -0.29 %/K |
| Current I _{sc} | 0.048 %/K |
| Output P _{mpp} | -0.35 %/K |

Low-light performance without Bifacial-effect

(Example for AC-415MB/108V)

| I-U characteristic curve | Current I _{pp} | Voltage U _{pp} |
|--------------------------|-------------------------|-------------------------|
| 200 W/m ² | 2.68 A | 30.42 V |
| 400 W/m ² | 5.41 A | 30.77 V |
| 600 W/m ² | 8.09 A | 31.01 V |
| 800 W/m ² | 10.69 A | 31.28 V |
| 1000 W/m ² | 13.13 A | 31.61 V |

Packaging

| | |
|--------------------------------|-----|
| Module pieces per pallet | 35 |
| Module pieces per HC-container | 910 |