

**IBEX**

HIGH TECHNOLOGY SOLAR MODULES

**IBEX 144MHC  
AEON BIFACIAL**  
435/440/445/450

**9BB** HALF-CELL MONO PV MODULE

BIFACIAL HIGH TECHNOLOGY  
GLASS SOLAR MODULES

SWISS SOLAR

IBEX HIGH EFFICIENCY MONOCRYSTALLINE SOLAR MODULES WITH HALF CELL TECHNOLOGY

**0+5** Positive power tolerance (0+5W) guaranteed



High performance under low light.  
Works at cloudy, rainy days



The monolithic perc cell structure technology (low resistance characteristics) is adopted ( the maximum conversion efficiency of modules is up to 20.38%)



EXTREME WEATHER RATING. High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3800 Pa)



Reduced resistance between cells Less micro cracks, higher output power



Combines high efficiency PERC bifacial cells with a dual glass construction, which can convert light that hits the back of the module into electricity, generating up to 25% more energy

# IBEX MHC144-AEON BIFACIAL 435-450

MONOCRYSTALLINE SOLAR MODULE

## ELECTRICAL DATA AT STC

Module Type	435W		440W		445W		450W	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated power P <sub>mpp</sub> [Wp]	435	327.0W	440	330.7W	445	334.5W	450	338.3W
P <sub>mpp</sub> range to	0/+5W		0/+5W		0/+5W		0/+5W	
Rated current I <sub>mpp</sub> [A]	10.66A	8.53A	10.73A	8.59A	10.80A	8.65A	10.87A	8.70A
Rated voltage V <sub>mpp</sub> [V]	40.8V	38.3V	41.0V	38.5V	41.2V	38.7V	41.4V	38.9V
Short-circuit current I <sub>sc</sub> [A]	11.14A	9.00A	11.21A	9.06A	11.29A	9.12A	11.36A	9.18A
Open-circuit voltage U <sub>oc</sub> [V]	49.2V	45.9V	49.4V	46.1V	49.7V	46.3V	50.0V	46.6V
Efficiency at STC up to	19.70%		19.93%		20.15%		20.38%	
Application Class	Class A		Class A		Class A		Class A	

## ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN (Reference to 440W Front)

	5%	10%	15%	20%	25%
Backside Power Gain	5%	10%	15%	20%	25%
Maximum Power At STC (P <sub>max</sub> )	462	484	506	528	550
Short Circuit Current(I <sub>sc</sub> )	11.78	12.34	12.9	13.42	13.98
Open Circuit Voltage(V <sub>oc</sub> )	49.40	49.40	49.40	49.50	49.50
Maximum Power Current (I <sub>mpp</sub> )	11.27	11.8	12.34	12.85	13.38
Maximum Power Voltage(V <sub>mpp</sub> )	41.0	41.0	41.0	41.1	41.1

STC: 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5. NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, wind speed 1m/s

## LIMITING VALUES

Max. system voltage [V]	1500V DC (IEC)
Max. return current [I]	20A
Operating Temperature	- 40 to +85°C
Max.tested pressure load [Pa]2	5400
Max. tested tensile load [Pa]2	3800

## TEMPERATURE COEFFICIENT

I <sub>sc</sub>	V <sub>oc</sub>	P <sub>max</sub>
0.05% /°C	-0.29 % /°C	-0.36% /°C

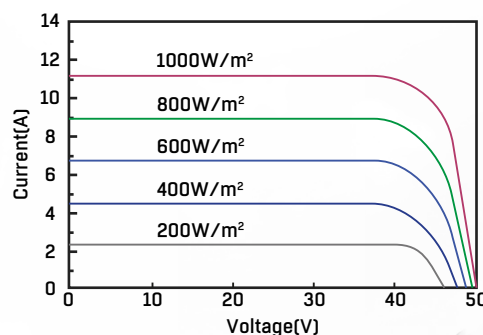
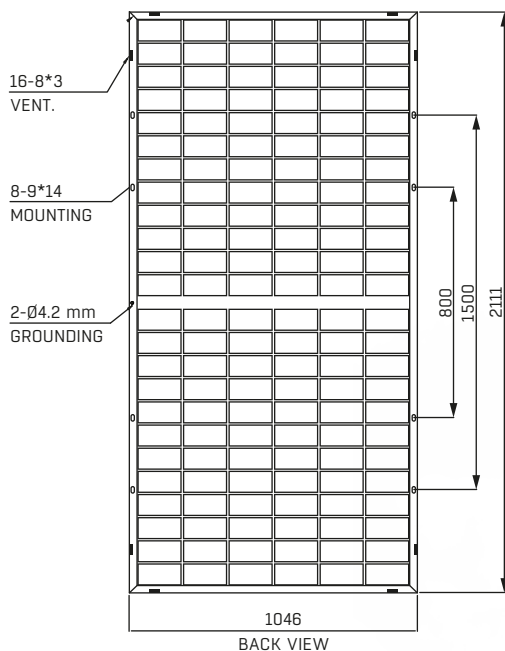
## SPECIFICATIONS

Number of cells	144 (6 x 24)   158.75x79.375mm
Dimensions	2111 x 1046 x 30 mm
Weight	29 kg
Front-side glass	2.0 mm <small>tempered highly transp. anti-reflection solar glass</small>
Frame	Stable, anodised aluminium frame, black
Junction box	Split Junction Box (IP68)
Cable	4 mm <sup>2</sup> , +300mm,-300mm Cust.Length
Diodes	3 Diodes
Plug-in connection	MC4 Compatible
Hail test (max. hailstrom)	Ø45mm   23 m/s   83 km/h

## PACKING CONFIGURATION

Container	40 HQ	Pieces Per Pallet	35
Pallets Per container	20	Pieces per Container	700

The specifications and average values can vary slightly. Relevant is the corresponding data of the individual measurement. Specifications are subject to change without notice. Measurement tolerance depending on equipment: rated power +/- 3%, other values +/- 10%. All information given in this data sheet corresponds to DIN EN 50380. A potential light-induced degradation of the power after commissioning is not considered here. Further information in the installation manual: 1 The specific warranty conditions are given under [www.swissenergy-solar.ch](http://www.swissenergy-solar.ch) | 2 Horizontal mounted | 3 Tolerance L/W = +/- 3 mm. H +/-2mm, the dimensions given in the order confirmation will be decisive | 4 Location and dimensions of holes on request



## WARRANTY

**20 YEARS**  
PRODUCT WARRANTY

**30 YEARS**  
POWER WARRANTY

**swiss solar**