

**IMPROVED LOAD**

pressure **6200**  
tensile **4200**

**TESTED**

**TOPCON  
CELLS INSIDE**

**12BB**

HALF-CELL  
MONO PV MODULE

**IBEX 120MHC-TOPCON**

460/465/470/475/480

**BLACK**

**IBEX HIGH EFFICIENCY MONOCRYSTALLINE SOLAR MODULES WITH TOPCON CELLS TECHNOLOGY**



SMBB TECHNOLOGY



LESS HOT SPOT SHADING EFFECTS



N-TOPCON CELL TECHNOLOGY



LOWER COST OF KILOWATT-HOUR  
ELECTRICITY (LCOE)



EXCELLENT ANTI-PID  
LOW LID PERFORMANCE



HIGH TECHNOLOGY  
SOLAR MODULES

- IEC61215(2016), IEC61730(2016)
- ISO9001:2015: Quality Management System
- ISO45001:2018 Occupational health and safety management systems



# IBEX 120MHC-TOPCON-BLACK 460-480

MONOCRYSTALLINE SOLAR MODULE

## ELECTRICAL DATA AT STC

Module Type	460W	465W	470W	475W	480W
	<b>STC</b>	<b>STC</b>	<b>STC</b>	<b>STC</b>	<b>STC</b>
Rated power P <sub>mpp</sub> [Wp]	460	465	470	475	480
P <sub>mpp</sub> range to	0/+5W	0/+5W	0/+5W	0/+5W	0/+5W
Rated current I <sub>mpp</sub> [A]	13.25A	13.33A	13.41A	13.49A	13.57A
Rated voltage V <sub>mpp</sub> [V]	34.72V	34.89V	35.05V	35.21V	35.37V
Short-circuit current I <sub>sc</sub> [A]	13.99A	14.07A	14.15A	14.23A	14.31A
Open-circuit voltage U <sub>oc</sub> [V]	42.05V	42.22V	42.38V	42.54V	42.70V
Efficiency at STC up to	21.32%	21.55%	21.78%	22.01%	22.24%
Application Class	Class A	Class A	Class A	Class A	Class A

\*STC: irradiance 1000W/m<sup>2</sup> | AM1.5 | Cell temperature of 25°C

## ELECTRICAL DATA AT NOCT

Power at P <sub>mpp</sub> [Wp]	346	350	353	357	361
Rated current I <sub>mpp</sub> [A]	10.61	10.67	10.73	10.79	10.85
Rated voltage V <sub>mpp</sub> [V]	32.60	32.77	32.94	33.10	33.26
Short-circuit I <sub>sc</sub> [A]	11.29	11.36	11.42	11.49	11.56
Open-circuit voltage U <sub>oc</sub> [V]	39.94	40.10	40.25	40.41	40.57

\*NOCT: irradiance 800 W/m<sup>2</sup> | Wind speed 1 m/sec | Ambient temperature | 20°C cell operating | AM 1.5

## LIMITING VALUES

Max. system voltage [V]	1500V DC (IEC)
Max. return current [I]	25A
Operating Temperature	- 40 to +85°C
Max.tested pressure load [Pa]2	6200
Max. tested tensile load [Pa]2	4200

## TEMPERATURE COEFFICIENT

I <sub>sc</sub>	V <sub>oc</sub>	P <sub>max</sub>
0.046% /°C	-0.25 % /°C	-0.30% /°C

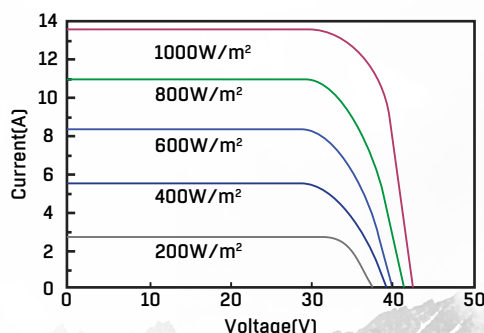
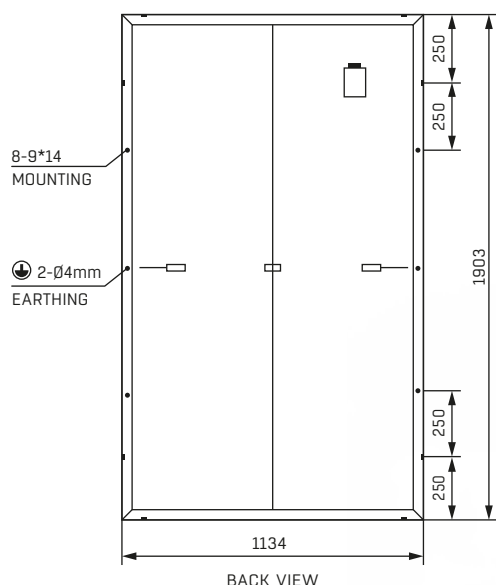
## SPECIFICATIONS

Type of cells	N-type Mono
Number of cells	120 (12x10)   182x91mm
Dimensions	1903 x 1134 x 35mm
Weight	23.8 kg
Frontglass	3.2 mm coated tempered glass
Frame	Anodized Aluminium Alloy
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	31
Pallets Per container	24	Pieces per Container	744

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 manuals. 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

**25 YEARS**  
PRODUCT WARRANTY

**30 YEARS**  
POWER WARRANTY

swiss solar

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