

# SOLON 230/02

*Design Module for Highest Standards.*



- › Highly efficient monocrystalline cell technology
- › Sleek aesthetics
- › Module efficiency levels of up to 15.6 %
- › Positive sorting of power classes (0 to +4.99 Wp)
- › Highest stability due to 4 mm solar glass and a frame with twin-wall profile
- › 10-year product warranty and 5-level performance guarantee
- › Performance stability without PID losses

*Made in Germany*

**SOLON** 

# Stunning Aesthetics. No Compromise on Performance.

SOLON modules offer the highest output – for decades. The SOLON Black 230/02 is the perfect choice for customers who value reliability and high output when choosing a solar power system – as well as sleek aesthetics. The monocrystalline design modules are made entirely of black components. They combine tried-and-tested SOLON technology and a unified rooftop appearance.

## Maximum Efficiency.

- › The latest high-efficiency monocrystalline cell technology from the world's leading cell suppliers
- › Excellent low light performance
- › Improved output due to positive sorting of power classes (0 to +4.99 Wp)
- › PID-free products with guaranteed performance stability
- › Exceptional module efficiency levels of up to 15.6%
- › Significantly higher output than the competitors' modules

## Highest Stability and Longevity.

- › Comprehensive lifespan tests, including outdoor tests, climate chamber storage, and participation in key PV comparative studies
- › Suitable for challenging installation sites due to exceptional mechanical resistance
- › 45 mm anodized aluminum frame with twin-wall profile
- › Drainage holes for outstanding weather-resistance
- › Ultra-hardened, low-reflection 4 mm solar glass
- › Corrosion-proof components
- › SOLON junction box with a metal cover and integrated cooling fins for optimum heat dissipation

## Exceptional Quality.

- › All system components meet stringent SOLON quality criteria
- › Rigorous process and material monitoring for the industry's highest quality standards
- › Outstanding workmanship
- › Continuous auditing using internal and external tests

## Safety Included.

- › The most mechanically resistant product on the market
- › The only product where the module construction has undergone independent statics testing
- › High mechanical durability: tested to 5,400 Pa (540 kg/m<sup>2</sup>)
- › Comprehensive SOLON warranties

## SOLON Advantages:

- › 10-year product warranty <sup>1)</sup>
- › 5-level performance guarantee for 25 years <sup>1)</sup>
- › SOLON solar insurance for rooftop installations included <sup>2)</sup>
- › Positive sorting of power classes (0 to +4.99 Wp)
- › Free module recycling

<sup>1)</sup>According to the SOLON Product and Performance Guarantee.

<sup>2)</sup>Applicable in the European Union and Switzerland.

# SOLON Black 230/02



## Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m<sup>2</sup>, (25 ± 2)°C, AM 1.5 in accordance with EN 60904-3

Power rating	$P_{max}$	255 Wp <sup>1)</sup>	250 Wp	245 Wp	240 Wp	235 Wp	230 Wp
Module efficiency		15.55 %	15.24 %	14.94 %	14.63 %	14.33 %	14.02 %
Rated voltage	$V_{mpp}$	30.24 V	30.03 V	29.82 V	29.62 V	29.41 V	29.20 V
Rated current	$I_{mpp}$	8.45 A	8.34 A	8.22 A	8.11 A	7.99 A	7.88 A
Open circuit voltage	$V_{OC}$	37.53 V	37.27 V	37.01 V	36.75 V	36.48 V	36.22 V
Short circuit current	$I_{SC}$	8.83 A	8.74 A	8.65 A	8.56 A	8.47 A	8.38 A
Maximum reverse current	$I_R$	20 A	20 A	20 A	20 A	20 A	20 A
Maximum system voltage		1.000 V	1.000 V	1.000 V	1.000 V	1.000 V	1.000 V

Measuring tolerance for  $P_{max}$ : ±3 %

Reduction of module efficiency from 1,000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: <4 %

## Electrical data – typical (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m<sup>2</sup>, NOCT, AM 1.5

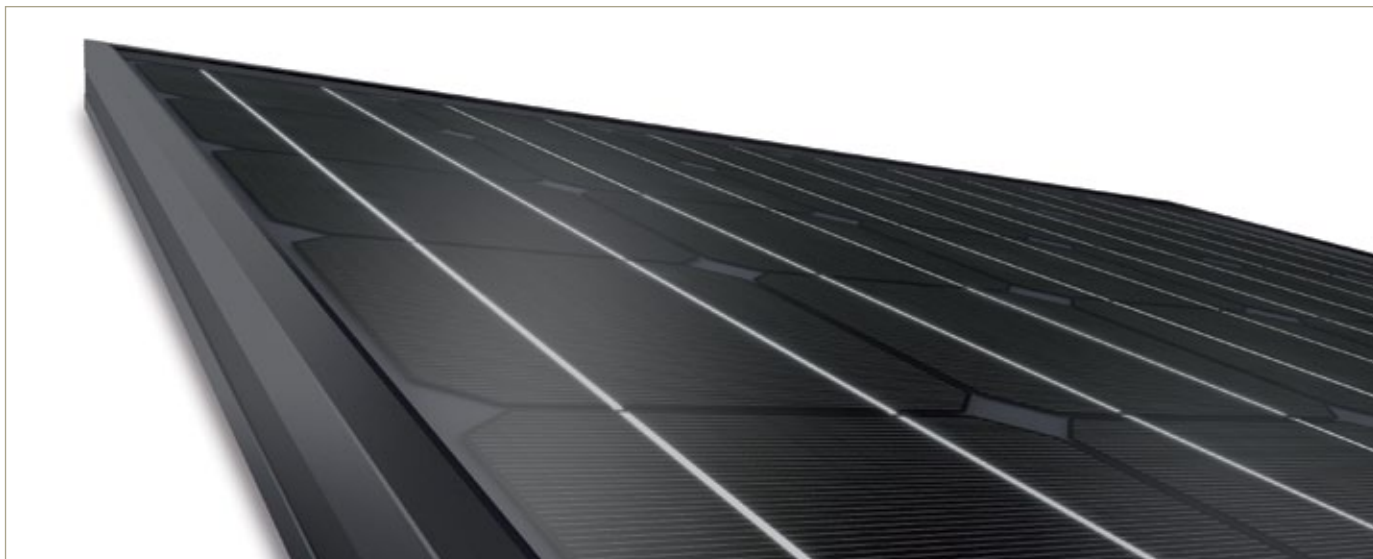
Power rating	$P_{max}$	183 Wp	179 Wp	176 Wp	172 Wp	169 Wp	165 Wp
Rated voltage	$V_{mpp}$	27.11 V	26.92 V	26.73 V	26.55 V	26.36 V	26.17 V
Rated current	$I_{mpp}$	6.75 A	6.66 A	6.57 A	6.48 A	6.39 A	6.30 A
Open circuit voltage	$V_{OC}$	33.92 V	33.69 V	33.45 V	33.22 V	32.97 V	32.74 V
Short circuit current	$I_{SC}$	7.13 A	7.06 A	6.98 A	6.91 A	6.84 A	6.77 A

## Thermal data

Tc of open circuit voltage	-0.33%/K
Tc of short circuit current	0.04%/K
Tc of power	-0.43%/K
NOCT (according to IEC 61215)	48°C ± 2°C

Measuring tolerance for all final data: ±10% (except  $P_{max}$  (STC) and NOCT)

<sup>1)</sup> Available in limited amounts upon request.





# SOLON Black 230/02

## Mechanical specifications

Dimensions (H x W x D)	1,640 x 1,000 x 45 mm
Weight	22.7 kg
Junction box	1 SOLON junction box with 3 bypass diodes
Cable	Solar cable, length 1,000 mm, 4 mm <sup>2</sup> , prefabricated with MC4-combinable plug
Application class	Class A at IEC 61730
Front glass	Transparent toughened safety glass, 4 mm
Solar cells	60 cells, monocrystalline Si 6.2" (156 x 156 mm)
Cell encapsulation	EVA (Ethylene Vinyl Acetate)
Back side	Black composite film
Frame	Anodized aluminum frame with twin-wall profile and drainage holes

## Permissible operating conditions

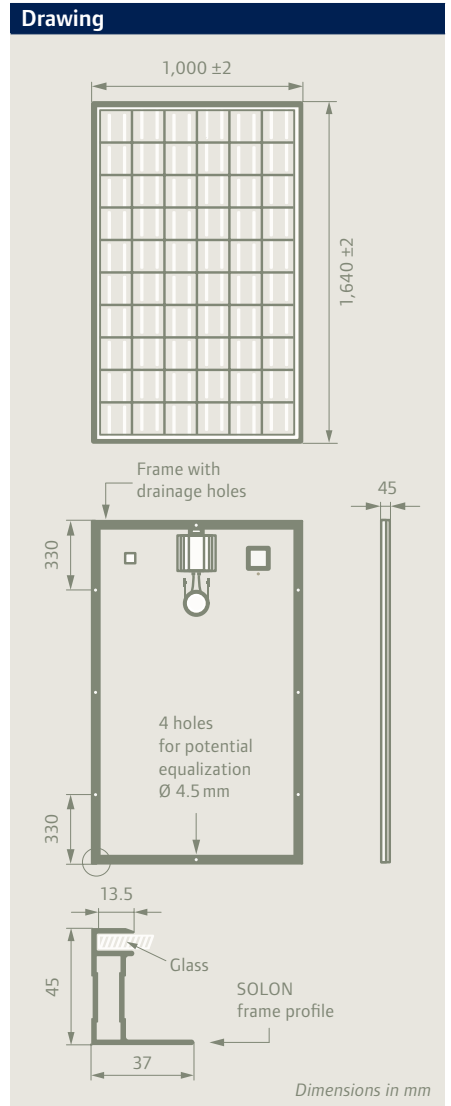
Temperature range	-40°C to +85°C
Maximum surface load capacity	Tested up to 5,400 Pa according to IEC 61215 (advanced test)
Resistance against hail	Maximum diameter of 25 mm with impact speed of 83 km/h

## Guarantees and certifications

Product guarantee	10 years <sup>2)</sup>
Performance guarantee	Guaranteed output of 95 % for 5 years, 90 % for 10 years, 87 % for 15, 83 % for 20 years and 80 % for 25 years <sup>2)</sup>
Approvals and certificates	IEC 61215 Edition II, IEC 61730 (incl. Safety Class II), IEC 68-2-52 (Salt mist resistance), MCS

This datasheet complies with the requirements of EN 50380:2003. Subject to modifications and omissions. Electric data without guarantee.

<sup>2)</sup> According to SOLON Product- and Performance Guarantee.



CEC Approved

