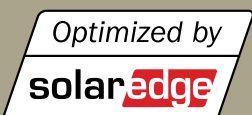


SOLON SOLraise.

The PV Solution for Maximising Output even with Partially Shaded Roofs.



- › Increased output by up to 25 %
- › Module level MPP tracking
- › Even available for use on roof spaces that have partial shaded areas
- › Integrated monitoring on module, string and system level
- › Ensured system safety through system shut down capabilities





SOLON SOLraise.

Every Module Has the Capability to Perform at its Best.

How can you increase the total output of a photovoltaic system by up to 25 %? With smart innovations: SOLON SOLraise is the newly developed photovoltaic system specifically designed to overcome challenging roof spaces that are subject to partial-shading.

More Precision. More Output.

- › Up to 25 % higher output through module level MPP tracking – ideal for roof spaces that have partial shaded areas
- › Optimum inverter efficiency at a maximum factor of 98 % – regardless of string length and power classes
- › Flexible string design for especially high utilisation of surface area
- › Installation without power class sorting

Unparalleled Safety at Any Given Moment: SafeDC™.

- › Highest system safety; thanks to Safe DC™ technology, the system is switched off during installation, maintenance and emergency
- › Prevention of electric shock and arcing
- › Safety voltage ensures installation is free of danger

Web-Monitoring Enhances the Total System Performance.

- › Web-based monitoring via standard Internet access
- › Password-protected access to system data
- › Fault detection on module, string and system level

SOLON Advantages:

- › 10-year product warranty¹⁾
- › 5-level performance guarantee for 25 years¹⁾
- › SOLON solar insurance for rooftop installations included²⁾
- › Positive sorting of power classes (0 to +4.99 Wp)
- › Free module recycling

¹⁾ According to the SOLON Product and Performance Guarantee.

²⁾ Applicable in the European Union and Switzerland.



SOLON Black 230/02 PLUS
(monocrystalline)



Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m², (25 ± 2)°C, AM 1,5 in accordance to EN 60904-3

Generator output	P_{max}	250 Wp	245 Wp	240 Wp	235 Wp
Module efficiency		15.24 %	14.94 %	14.63 %	14.33 %
Max. Module efficiency of the PowerOptimizer		99.5 %	99.5 %	99.5 %	99.5 %
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit current	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc
Maximum system voltage, predetermined from the inverter		950 V	950 V	950 V	950 V

Measuring tolerance for P_{max} : ± 3%

Reduction of module efficiency from 1,000 W/m² to 200 W/m²: < 4%

Elektrische Daten – typisch (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m², NOCT, AM 1,5

Power rating	P_{max}	179 Wp	176 Wp	172 Wp	169 Wp
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit voltage	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc

Thermal data

T_c 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)

SOLON SOLraise.

SOLON Black 230/07 PLUS (monocrystalline)



Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m², (25 ± 2)°C, AM 1,5 in accordance to EN 60904-3

Generator output	P_{max}	250 Wp	245 Wp	240 Wp	235 Wp
Module efficiency		15.24 %	14.94 %	14.63 %	14.33 %
Max. Module efficiency of the PowerOptimizer		99.5 %	99.5 %	99.5 %	99.5 %
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit current	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc
Maximum system voltage, predetermined from the inverter		950 V	950 V	950 V	950 V

Measuring tolerance for P_{max} : ± 3%

Reduction of module efficiency from 1,000 W/m² to 200 W/m²: < 4%

Elektrische Daten – typisch (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m², NOCT, AM 1,5

Power rating	P_{max}	179 Wp	176 Wp	172 Wp	169 Wp
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit voltage	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc

Thermal data

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)

SOLON Blue 230/07 PLUS (polycrystalline)



Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m², (25 ± 2)°C, AM 1,5 in accordance to EN 60904-3

Generator output	P_{max}	250 Wp	245 Wp	240 Wp	235 Wp
Module efficiency		15.24 %	14.94 %	14.63 %	14.33 %
Max. Module efficiency of the PowerOptimizer		99.5 %	99.5 %	99.5 %	99.5 %
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit current	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc
Maximum system voltage, predetermined from the inverter		950 V	950 V	950 V	950 V

Measuring tolerance for P_{max} : ± 3%

Reduction of module efficiency from 1,000 W/m² to 200 W/m²: < 5%

Elektrische Daten – typisch (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m², NOCT, AM 1,5

Power rating	P_{max}	182 Wp	178 Wp	175 Wp	171 Wp
Rated voltage *)	V_{mpp}	5–60 V	5–60 V	5–60 V	5–60 V
Rated current *)	I_{mpp}	0–15 A	0–15 A	0–15 A	0–15 A
Open circuit voltage	V_{OC}	1 Vdc	1 Vdc	1 Vdc	1 Vdc

Thermal data

Tc of power		–0.41 %/K
NOCT (according to IEC 61215)		46°C ± 2°C

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

*) Depending on system configuration, 8–25 modules with single-phase inverter, 16–50 with three-phase inverter.

SOLON SOLraise.

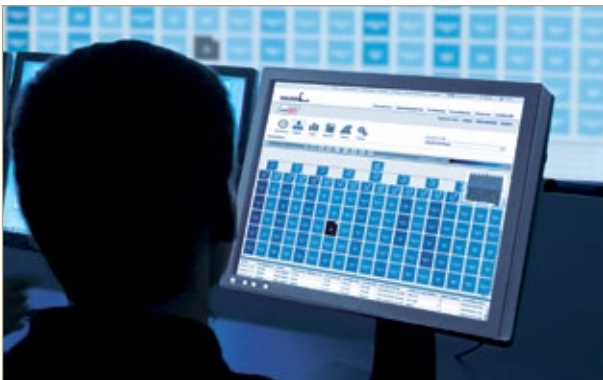
The perfect harmonization of system components.

All of the components used adhere to SOLON's stringent quality standards, resulting in exceptional system safety and stable output that will last for decades.



Power-optimized Box.

- › Replaces the conventional module connection box
- › Continual MPP tracking on module level
- › Integrated Safe DC™ function for maximum safety



Monitoring.

- › Web-based power monitoring on module, string and system level, from any Internet capable PC worldwide
- › Technical and financial data monitoring of one or more PV systems
- › Automatic warning message for precise fault recognition



SolarEdge Inverter.

- › Available in two variants:
 - single-phase for system sizes from 3–6 kWp, 8–25 modules / string;
 - three-phase for system sizes from 7–12.5 kWp, 16–50 modules / string
- › Compliant with new Low Voltage Directive (VDE-AR-N 4105) and EEG 2012
- › Constant input voltage for optimally weighted efficiency of 98% (single-phase 97.6%, three-phase 98.0%)
- › Integrated communication unit for recording power data and transferring them to the server



SOLON-Modules.

- › Highly efficient monocrystalline and polycrystalline cell technology
- › Module efficiency levels of up to 15.2%
- › Performance stability without PID losses
- › Highest stability and exceptional mechanical resistance
- › Distinguished quality (PV+ test winner)

SOLON SOLraise.

SOLON Black 230/02 PLUS, SOLON Black 230/07 PLUS and SOLON Blue 230/07 PLUS.

MODULE

Mechanical specifications

Dimensions (H x W x D)	1,640 x 1,000 x 45 mm
Weight	23.2 kg
Junction box (Max. efficiency of the PowerOptimizer)	SolarEdge PowerOptimizer (99.5 %)
Cable	Solar cable, length 1,000 mm, 6 mm ² , prefabricated with MC4 plug
Application class	Application class A at IEC 61730
Front glass	4 mm White ESG glass
Solar cells	60 cells, polycrystalline Si 6.2" (156 x 156 mm)
Cell encapsulation	EVA (Ethylene Vinyl Acetate)
Back side	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

OTHER COMPONENTS

Single phase inverter⁵⁾

Dimensions (B x W x H)	540 x 315 x 191 mm
Weight	23 kg
Max. efficiency	97.6%
Operating temperature range	-20°C to +50°C

Three phase inverter⁵⁾

Dimensions (B x W x H)	540 x 315 x 260 mm
Weight	32 kg
Max. efficiency	98%
Operating temperature range	-20°C to +60°C

Monitoring

Monitoring, web-based	Module-level, string-level, system-wide
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SYSTEM

Guarantees and certifications

Module product guarantee	10 years ³⁾
Inverter product guarantee	12 years ⁴⁾
PowerOptimizer product guarantee	25 years ⁴⁾
Performance guarantee module	Guaranteed output of 95 % for 5 years, 90 % for 10 years, 87 % for 15 years, 83 % for 20 years and 80 % for 25 years ³⁾
Approvals and certificates module	IEC 61215 Edition II, IEC 61730 (incl. Safety Class II), IEC 62716 (Ammonia resistance)
EMC	IEC 61000-6-2; IEC 61000-6-3; IEC 62103

The monitoring terms and conditions are available at www.solon.com/global/solraise.

Drawing

