

Solar Module

Smart-60

270 Wp poly

290 Wp mono

KIOTO
SOLAR

SMART! Module optimizing

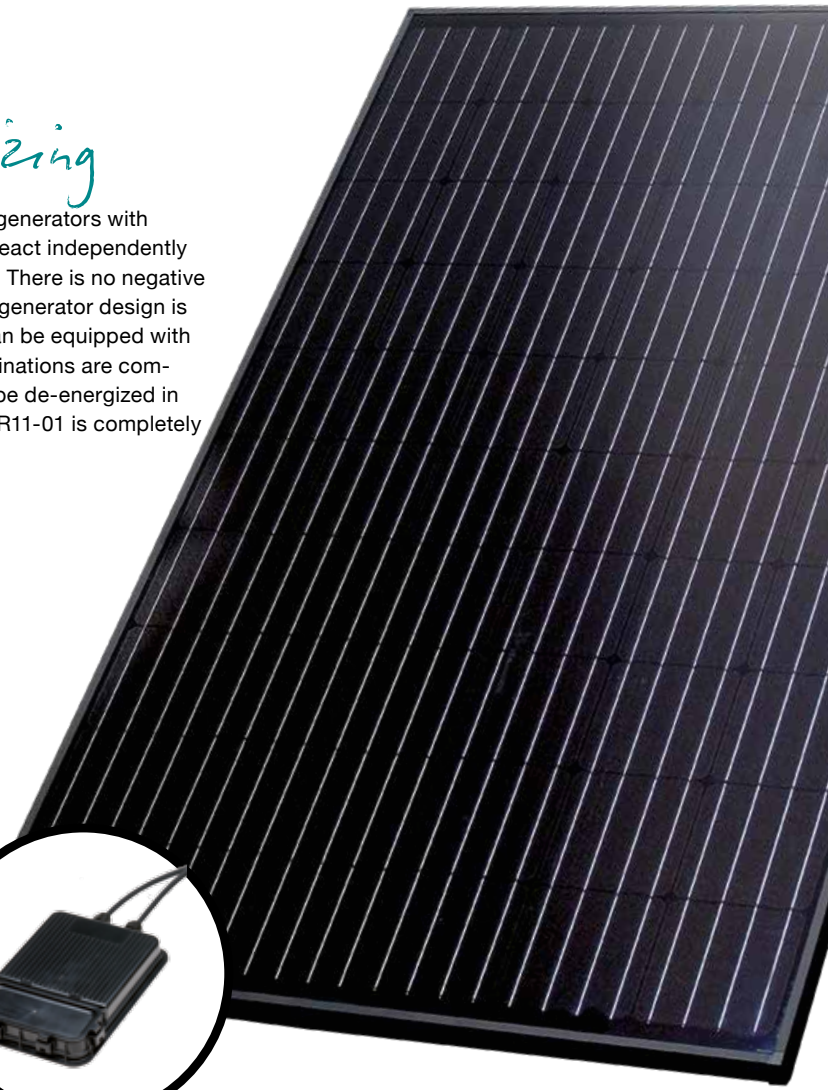
The intelligent KIOTO Smart photovoltaic module is ideal for generators with possible shadowing. Due to the module optimizer all panels react independently from each other and always provide the production optimum. There is no negative influence on the complete string because of shadowing. The generator design is more flexible, also roof surfaces with different orientations can be equipped with modules. Losses, temperature differences as well as contaminations are compensated. Every module can be set in a safety state and will be de-energized in case of maintenance or fire. Therefore the austrian guideline R11-01 is completely fulfilled.

Advantages:

- // Module integrated MPP-tracking
- // Yield surplus up to 25 %
- // More flexibility in generator design
(various directions, shadowing,...)

Ready for:

- // Integrated monitoring on
module-, string- and generator level
- // System safety due to automatic shut down
on module level



SMART-60

KPV PE NEC 270 Wp poly

KPV ME NEC 290 Wp mono

Module specifications

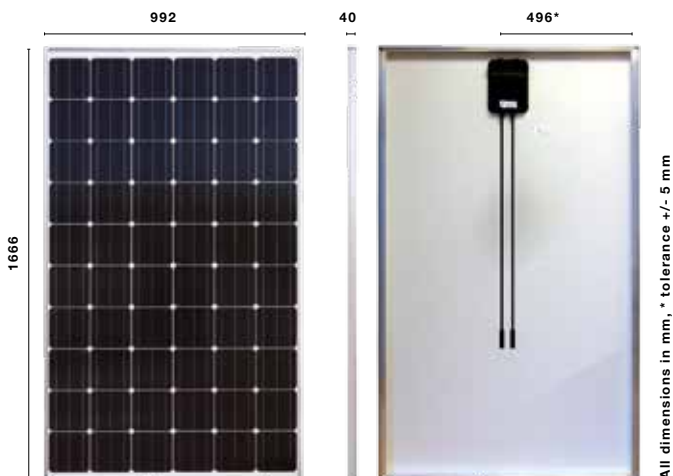
Type	Pmpp _[Wp]	Ump _[V]	I _{mp} _[A]	Uoc _[V]	Isc _[A]	efficiency rate	area per kWp
270 poly	270Wp	32,18V	8,42A	38,33V	9,03A	16,34 %	6,12m ²
290 mono PERC	290 Wp	31,99 V	9,07 A	38,12 V	9,55 A	17,55 %	5,69 m ²

Electrical data

60 crystalline cells	156mm x 156mm
Connecting System	SolarEdge OPJ300, MC4 - compatible connector 6 mm ²
Max. system voltage	1000V DC
Power tolerance	(+ 5 W / - 0 W) Measurement: STC (standard test conditions)
Temperature coefficients	poly: Pmpp -0,405%/K Uoc -114mV/K Isc +4,1mA/K mono: Pmpp -0,37%/K Uoc -90,7mV/K Isc +2,85mA/K
Max. reverse over current	15A
Operation temperature	+85°C up to -40°C
Cable length	2 x 1000mm
Bypass diodes	3 pcs.
Efficiency guarantee	min. 97% in the first year, afterwards max. 0,70 % reduction p.a. up to 25 years
Product guarantee	12 years (excluding power electronics)

Technical data

incl. aluminium frame	1666 mm x 992 mm x 40 mm (+/- 2 mm)
Weight	20,00 kg
Glass specification	Solar glass ESG 3,2 mm with high-strength antireflective coating
Encapsulation material	STRE
Backside material	Isovoltaic
Test certificate	IEC 61215, Ed. 2 incl. mechanical load test up to 5400 Pa, IEC 61730; IP 65, MCS - Zertifikat
Extended hail test	Grainsize 25 mm, max. velocity of 46 m/s (165,6 km/h) and Grainsize 55 mm, max. velocity of 33,5 m/s (120,6 km/h)
Salt mist corrosion test	A minimum of 96 hours continuous exposure to a highly concentrated salt mist
Ammonia Resistance	1500h at 750ppm Ammonia concentration
Packaging	24 modules / pal.



Intelligent junction box

- // Per module one MPP-tracker
- // Ready for*: Maximum safety standard - R11-01
- // Ready for*: Monitoring and surveillance on module level

* in combination with original Solaredge inverter



The customer carries the sole responsibility the the goods ordered and delivered are suitable for his purposes. Applicational advices, whether verbal, in writing or by making tests are conducted to the best of KIOTO Photovoltaics GmbH's knowledge, whether verbal, in writing or by way of trials or otherwise, is provided to the best of our knowledge, but without any guarantee or liability. Special technical constructions may be subject to official approval. The constructor or the client is responsible for obtaining such official approval. The customer must bear any costs caused by changes or alterations because of special technical constructions, especially for tests or calculations. A project-related, static pre-dimensioning as well as the correct use of the glasses was not carried out or tested by us.
Measurement tolerance ±3%