



## PHOTOVOLTAIC MODULE

# DE-AP Series

### German quality standards

All WIOSUN® photovoltaic modules are subject to our strict quality standards. To ensure this, we continually monitor all manufacturers and suppliers worldwide that deliver products to WIOSUN®. All of our 25 year know-how together with selected individual components in premium quality have gone into them. These modules are also particularly suitable for use in hot regions due to their high degree of laminated membrane integration.

### Positive-only tolerance

You can count on our quality, because WIOSUN® delivers only modules with positive tolerance up to +4.99 Wp.

### Suitable for all snow load regions

The newly developed and strengthened 35 millimetre hollow chamber frame gives our modules extremely high stability – in all weather conditions.

### 10 year warranty on our products

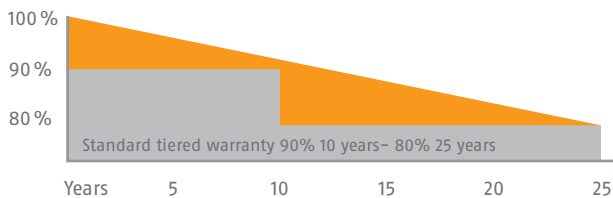
With the 10 year product warranty on the WIOSUN® module series, as well as a 25 year performance guarantee, WIOSUN® photovoltaic modules are among the most reliably calculable components for efficient PV systems.



**MADE IN EUROPE**



**10 YEAR WARRANTY**



Added Value – Linear performance warranty from WIOSUN®

### General

Cells	48 (6x8) polycrystalline	Cellsize	156 x 156 mm
Frame	Anodized aluminium	Front glass	3.2 mm Solar glass
Connection	Plastics, IP65, 3 bypass-diodes	Wire	4 mm <sup>2</sup> Solar cabel, 1000 mm length
Connector	MC4 compatible	Power tolerance	0 to +4.99Wp

### Electrical Datas (STC\*)

MODULETYPE			DE-A190P	DE-A195P	DE-A200P
Nominal Power	P <sub>MPP</sub>	Wp	190	195	200
MPP-Voltage	U <sub>MPP</sub>	V	24.20	24.40	24.50
MPP-Current	I <sub>MPP</sub>	A	7.85	7.98	8.05
Open-circuit voltage	U <sub>OC</sub>	V	29.04	29.28	29.52
Short-circuit current	I <sub>SC</sub>	A	8.65	8.80	8.95
Module efficiency	η%		14.50	14.88	15.26
Cell efficiency	η%		17.40	17.60	17.80

### Electrical Datas (NOCT\*\*)

MODULETYPE			DE-A190P	DE-A195P	DE-A200P
Nominal Power	P <sub>MPP</sub>	Wp	163.59	166.89	169.99
MPP-Voltage	U <sub>MPP</sub>	V	23.99	24.19	24.38
Open-circuit voltage	U <sub>OC</sub>	V	28.52	28.76	28.93
Short-circuit current	I <sub>SC</sub>	A	7.12	7.25	7.39

### Temperature coefficients

Temperature coefficients I <sub>SC</sub>	+ 0.04 % / K
Temperature coefficients U <sub>OC</sub>	- 0.34 % / K
Temperature coefficients P <sub>MPP</sub>	- 0.48 % / K
NOCT	48 °C ± 2 °C

### Limits

System voltage max.	600V / 1000V
Reverse current max.	24 A
Operating temperature	- 40 °C - 80 °C
Maximum load	5400 Pa/m <sup>2</sup> = 550 kg/m <sup>2</sup> (75 lbs/ft <sup>2</sup> )
Safety class	II

### Certifications and warranty

TÜV	IEC 61215, IEC 61730, 1703 i. p.
Product warranty	10 years
Performance warranty	linear 25 years

### Mechanical Datas

Dimensions	1316 x 996 x 35 mm ±1 mm 64.56 x 38.97 x 1.38 inch ±0.03 inch
Weight	15 kg   33.07 lbs

### Packing configuration

Modules/Cardboard	28
Cardboard/Container	34
Modules/Container	1020

All figures are according to DIN EN 50380.

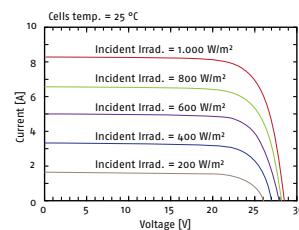
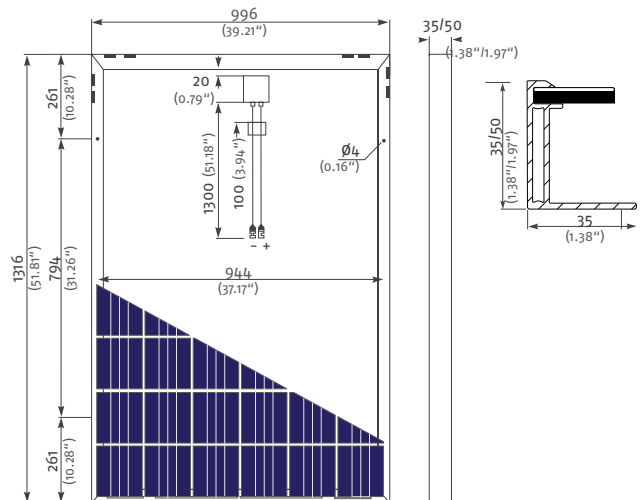
Tolerance at rated power 0 to +4.99 Wp. All other specifications ± 3%.

At a low irradiation intensity of 200 W/m<sup>2</sup> (AM 1.5, cell temperature 25 °C) 96 % of the STC module efficiency will be archived.

\* Standard Test conditions (1000 W/m<sup>2</sup>, AM 1.5, cell temperature 25 °C)

\*\* Normal Operating Cell Temperature (800 W/m<sup>2</sup>, AM 1.5, windspeed 1 m/s, ambient temperature 25 °C)

### Technical drawing



### Your WIOSUN® Dealer

