



## PHOTOVOLTAIC MODULES

### BASED ON SILICON POLY-CRYSTALLINE CELLS

# SERIES EL60

Output power up to 270 Wp

### Key Features

- **High conversion efficiency due to the advanced photovoltaic technologies involved**
- **High reliability over time due to a fully automated lay-up process and a vacuum laminator oven**
- **High strength due to a design based on a robust aluminium frame equipped with a sealing layer that is able to protect the laminate against the mechanical forces caused by both environmental agents and thermal expansions**
- **Up to 25 years warranty time with 80% of original power**
- **Carefull materials selection in order to minimize the absorption inside laminate and maximize the cells energy yield**
- **CE compliant product according to EN IEC 61215 and EN IEC 61730 standards**
- **Tolerance in power -0/+3%**
- **Available in the following finish (backsheet/frame):**  
     white/silver (*as standard*)  
     black/black (*on request*)
- **Production plants joined collective systems for the recycling of the products put on the market**

### Product Description

Poly-crystalline photovoltaic modules EL60 series are built following strict quality directives to provide a stable high efficiency over operating years in the destination site and protect the customer investment. Accurate cell selection, manufacturing process using the latest technology and facilities, severe quality control makes the EL60 modules the best solution for actual PV systems. The modules are supplied with professional mounting system for an easy and safe installation; in fact all the modules are equipped with IP65 junction box containing 3 bypass diodes and cables already fitted with connectors ready for the installation.

EL60 modules are designed and tested to resist wind, hail, storm and other severe weather conditions. Those modules were tested and certified to resist against the mechanical force caused by wind (up to 2400 Pa) and snow (up to 5400 Pa).

Those panels are provided to answer to increasing demand of hi-quality, long lasting, high-efficiency modules of actual and future market with total respect for the environment.

### Applications

Use in systems designed, assembled and installed by qualified technicians, for permanent use in a defined location, in order to produce energy from solar source for public, commercial, industrial and residential applications (ex.: grid-connected power stations on field and on roof, partially integrated and totally integrated installations, PV power station).

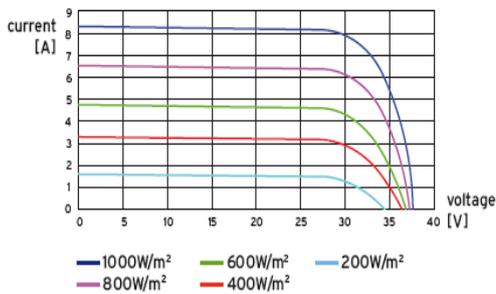
### Quality, Safety and Environment

- Produced exclusively in France and Italy in production sites with ISO 9001 (quality), ISO 14001 (environmental) and OHSAS 18001 (safety) accredited management systems
- CE compliant and certified product according to EN IEC 61215:2005 and EN IEC 61730-2:2012 standards
- The electrical performance of each module is verified on the production line with an independent and certified sun simulator
- Electrical safety is verified on each module before packaging by using a dielectric rigidity tester and a grounding continuity tester
- El.Ital. S.p.A. and Elifrance S.a.s. joined collective systems for the recycling of the products on their local market

### Warranty

EL60 series modules comes with a warranty of 10 years against manufacturing and material defects, furthermore modules are granted to supply a 90% of original power over 10 years and 80% of original power over 25 years, for more info please refer to the product user manual.

## IV CURVES

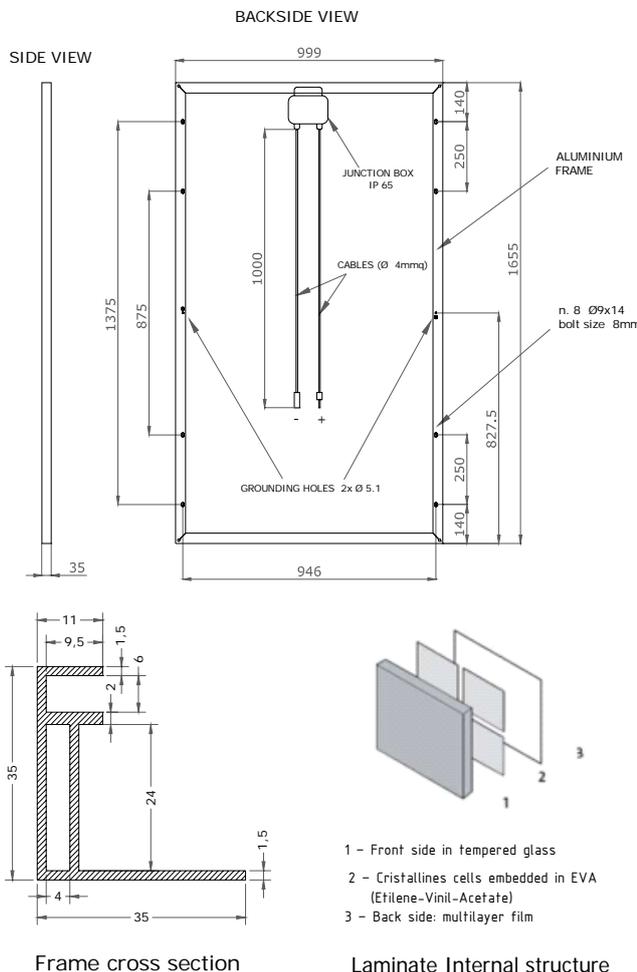


## Electrical data

			EL60245	EL60250	EL60255	EL60260	EL60265	EL60270
Maximum power in STC*	Pmpp	Wp	245	250	255	260	265	270
Open Circuit Voltage	Voc	V	37,50	37,78	38,14	38,54	38,94	39,24
Voltage at Pmpp	Vmpp	V	29,81	30,19	30,58	30,95	31,32	31,58
Short-circuit current	Isc	A	8,71	8,80	8,89	8,97	9,05	9,15
Current at Pmpp	Impp	A	8,22	8,28	8,34	8,40	8,46	8,55
Typical Module Efficiency	ηm	%	14,82	15,12	15,42	15,73	16,03	16,33
Surface Power density	δs	W/m2	148	151	154	157	160	163
Power Tolerance	ΔP	%	0/+3%					
Maximum system voltage	Vmax	Vcc	1000					
Maximum reverse current	Irm	Acc	15					

\* Peak in Standard Test Conditions : Irradiance = 1000W / m<sup>2</sup> - A.M.=1.5 - Module Temperature =25°C

## Mechanical and construction data



Photovoltaic elements type	Silicon Poly-Crystalline cells with antireflection coating
Photovoltaic elements per module	60 cells organized in 6x10
Photovoltaic cells dimensions	156 x 156mm ±0,5mm Thickness 200µm ±40µm
Module Dimensions (mm) (Length X Width X Height)	1655 x 999 x 35 ± 1,5mm
Module Weight	19kg cables and junction box included
Frame material	Extruded anodized aluminium alloy
Front Glass features	High transmission, low-Iron tempered glass 3,2mm thickness Glass may have anti-reflective coating
Junction box and connectors	IP65 with 3 integrated bypass diodes. Cables fitted with compatible MC4 connectors
Operating Temperature Maximum applicable loads	from -40°C to +85°C wind: 2,4kPa snow: 5,4kPa

## Temperature Factors

Normal Operating Cell Temperature	NOCT	46°C	
Temperature factor for current Isc	α	+1,998 mA/°C (average)	+0,023 %/°C
Temperature factor for voltage Voc	β	-106,1 mV/°C (average)	-0,285 %/°C
Temperature factor for Power Pmpp	γ	-0,941 W/°C (average)	-0,392 %/°C

**APPROVALS:**  
EN IEC 61215:2005/EN IEC 61730-2:2012



EL60 modules were tested and certified with the following mounting systems: Solapro/Solabac; Dome Solar/Italsolar; Mecosun/Mecosun MV€

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Technical data and specifications subject to modification without prior notice.  
For more information and product updates please visit websites  
web: <http://www.elitalspa.com> - <http://www.elifrance.com>  
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