

- ◆ Maximum quality standards modules
- ◆ Ultrafine high efficiency cells
- ◆ Generating energy since 1981
- ◆ Strength and reliability
- ◆ Tested and certified by TÜV



For further details, please visit isofoton.com

PHOTOVOLTAIC MODULES ISF-215 / 220 / 225 / 230

Monocrystalline solar modules



PHYSICAL CHARACTERISTICS

CELL TYPE	With antireflection layer, textured, monocrystalline Si, size 156 x 156 mm (6x6 in)
CONTACTS	Redundant, multiple contacts in each cell
CELLS PER MODULE	60 cells in serial
STRUCTURE	1) Tempered, microstructured, high transmittance glass 2) EVA laminated cells 3) Tedlar/polyester back layers
FRAME	Anodized aluminum
GROUND	Yes
ANTITHEFT DRILL	Yes
INTERCONNECTION	PCB
INTERCONNECTION BOXES	1 x IP 65 with bypass diode
WIRES	1 m (+); 1 m (-); 4 mm ² Multicontact MC4 or similar

TYPICAL VALUES FOR SYSTEM INTEGRATION

MAXIMUM VOLTAGE ALLOWED	1,000 V
REVERSE CURRENT OVERLOAD	2 h overload at 135% maximum protection value
MAXIMUM MECHANICAL LOAD ALLOWED	5,400 Pa (0,78 psi)
OPERATION CONDITIONS	- 40 °C to 85 °C (-40 to 185 °F)
IMPACT RESISTANCE	25 mm (0.98 in) hail, from 1 m (39,37 in) of distance at 23 m/s (51.45 mph)

GENERAL CHARACTERISTICS

DIMENSIONS	1,667 x 994 x 45 mm (65,63x39,1x1,77 in)
WEIGHT	19 kg (41,89 lb)
PACKAGING CONDITIONS	20 modules per box (4 modules per box as option)
PACKAGING SIZE	1,725 x 1,045 x 1,220 mm (67,91x42,14x48,03 in) (recyclable materials)



PERFORMANCE AT STANDARD TEST CONDITIONS

MAXIMUM POWER RATING - P_{max} - (W)
OPEN CIRCUIT VOLTAGE - V_{oc} - (V)
MAXIMUM POWER VOLTAGE - V_{mpp} - (V)
SHORT CIRCUIT CURRENT - I_{sc} - (A)
MAXIMUM POWER CURRENT - I_{mpp} - (A)
EFFICIENCY (%)
OUTPUT TOLERANCE (% P_{max})

ISF-215	ISF-220	ISF-225	ISF-230
215	220	225	230
36,8	36,9	36,9	37
29,5	29,6	29,6	29,7
8,05	8,17	8,3	8,3
7,29	7,44	7,62	7,75
13	13,3	13,6	13,9
± 3%	± 3%	± 3%	± 3%

Measured in solar simulator Class A, according to IEC-60904-9Ed.2, certified by TÜV Rheinland

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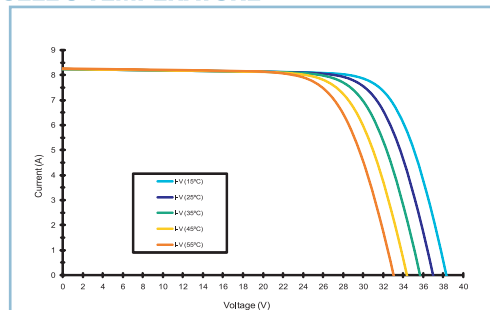
PERFORMANCE AT 800 W/m², NOCT, AM 1,5

MAXIMUM POWER RATING - P_{max} - (W)
OPEN CIRCUIT VOLTAGE - V_{oc} - (V)
MAXIMUM POWER VOLTAGE - V_{mpp} - (V)
SHORT CIRCUIT CURRENT - I_{sc} - (A)
MAXIMUM POWER CURRENT - I_{mpp} - (A)
OUTPUT TOLERANCE (% P_{max})

ISF-215	ISF-220	ISF-225	ISF-230
154	157	161	163
33,4	33,5	33,5	33,6
26,1	26,1	26,1	26,3
6,5	6,6	6,7	6,7
5,9	6,0	6,2	6,2
± 3%	± 3%	± 3%	± 3%

Efficiency reduction from 1000 W/m² to 200 W/m² at 25°C, according to standard 60904-1: 5%(+/-3%)

ISF-220 I-V VARIATION ACCORDING TO CELL'S TEMPERATURE



TEMPERATURE COEFFICIENTS

T _{OC}	47°C + / - 2°C
CCT I_{sc}	0,0294 %/ K
CCT V_{oc}	-0,387 %/ K
CCT P_{max}	-0,48 %/ K

REMARKS:

All specifications are subject of change without prior notification by ISOFOTÓN S.A. This commercial sheet meets the requirements of EN 50380

DIMENSIONS

