

Module Type PolyUp

ITS220E (Acidic etched, 3 busbars) – STC*

Pmax	Wp	190	200	210	220	230
Vmpp	V	27.20	28.00	28.70	28.80	29.10
Impp	A	7.00	7.10	7.30	7.60	7.90
Voc	V	35.00	35.80	36.00	36.60	36.70
Isc	A	7.40	7.60	7.70	8.00	8.20
IR****	A	15	15	16	16	16
η	%	11.45 – 12.04	12.05 – 12.64	12.65 – 13.24	13.25 – 13.85	13.86 – 14.45

NOCT **

Pmax	Wp	135	145	153	160	167
Vmpp	V	25.30	25.50	25.60	25.80	26.20
Voc	V	33.40	33.60	33.70	34.00	34.30
Isc	A	6.05	6.30	6.45	6.70	6.90

Temperature Coefficients

Pn	-0.46 %/K
Voc	-0.35 %/K
Isc	0.05 %/K

Module Type MonoUp

ITS220M (Mono, 3 busbars) – STC*

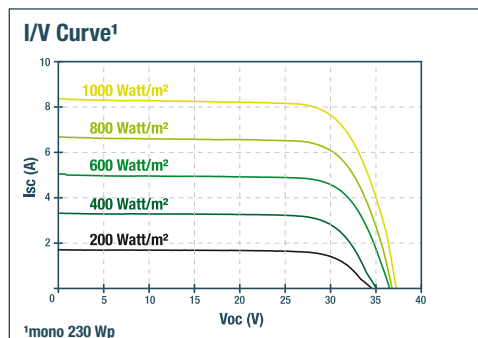
Pmax	Wp	190	200	210	220	230
Vmpp	V	27.30	27.80	28.20	28.60	29.10
Impp	A	7.00	7.20	7.50	7.70	7.90
Voc	V	35.00	35.40	35.70	36.00	36.30
Isc	A	7.50	7.70	8.00	8.30	8.50
IR****	A	15	15	16	17	17
η	%	11.45 – 12.04	12.05 – 12.64	12.65 – 13.24	13.25 – 13.85	13.86 – 14.45

NOCT **

Pmax	Wp	135	143	151	158	166
Vmpp	V	24.70	25.20	25.60	25.90	26.40
Voc	V	32.70	32.90	33.10	33.30	33.60
Isc	A	6.00	6.20	6.40	6.60	6.80

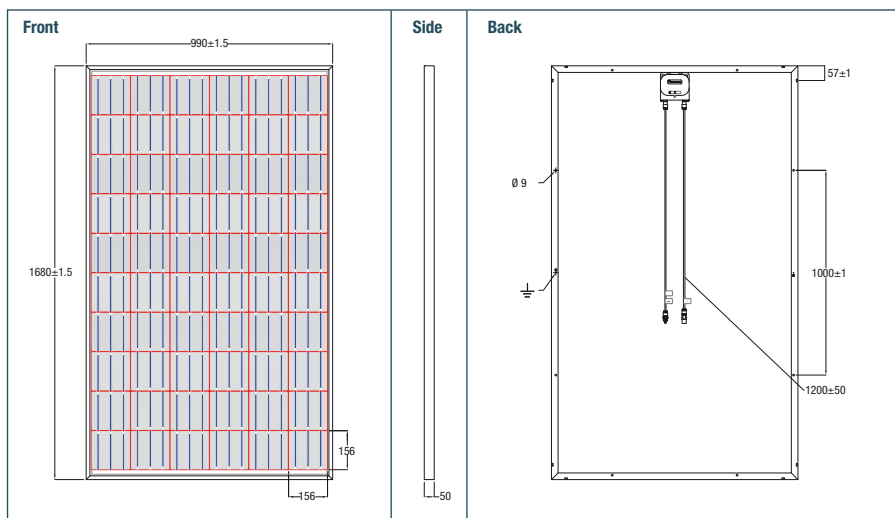
Temperature Coefficients

Pn	-0.50 %/K
Voc	-0.37 %/K
Isc	0.03 %/K



Both Module Types

NOCT **	45°C
Module efficiency reduction at 200 W/m ² ***	-0.6 (± 0.3)% abs.
Max. System Voltage	1000 V
IP protection level	IP 65
Module Technology	Glass-Foil-Laminate with aluminum frame
Module Design	Cover material: high transparent solar glass (tempered), 4 mm Encapsulation: EVA-Solar Cells-EVA, Back material
No. and Type of Solar Cells	60 crystalline solar cells, 156 x 156 mm, 180 μm ± 30 μm
Cables	Junction box with Tyco Plug connectors, 2 x 4 mm ² , length: each 1.2 m
Bypass-Diodes	3 pcs.
Dimensions (LxWxH):	1680 x 990 x 50 mm
Weight:	24 kg
Operating Temperature Range	-40 ... +80°C
Ambient Temperature Range	-40 ... +45°C
Mechanical ratings	Suction pressure of 2400 Pa approved (Wind speed 130 km/h with safety factor 3), load of 5400 Pa approved
Compliant with	IEC 61215 IEC 61730
Measuring tolerances	Pmax @ STC ± 5%, all other electric parameters ± 10%



Both module types are available with 2 or 3 busbars.

* STC – Standard Test Conditions, measurement conditions: intensity irradiation 1000 W/m², spectral distribution AM 1.5, temperature 25 ± 2°C, acc to standard EN 60904-3

** NOCT – Normal Operation Cell Temperature, measurement conditions: irradiation intensity 800 W/m², AM 1.5, temperature 20°C, wind speed 1 m/s.

*** Reduced performance with the decrease in the intensity of irradiation of 1000 W/m² and 200 W/m², temperature 25°C according EN 60904-1

**** Reverse current power rating: operation of the modules with an external power source is only permitted with a string fuse with a release current of <2 x Isc @ STC*

This datasheet conforms to EN 5038.

Innotech Solar reserves the right to change specifications without notice.