

Bright energy

Solar Module Innotech Solar ITS

ITS PolyUp

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High end quality

The ITS PolyUp Series is designed for photovoltaic free field installations or large rooftop systems, where minor visual impacts in the module can be tolerated. High end control in the cell process and top class module manufacturing secure a safe investment with high yields over long term.

The modules are equipped with Tyco plug connectors that are touch-safe and protected against inverse polarity. Module frames are designed for extremely high level of stability and solid connectivity. In-house development of innovative cell processes and modules using only certified materials assure highest quality.

ITS Extra Yield Plus

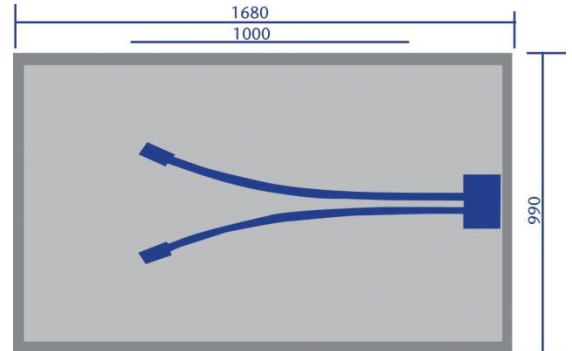
ITS PolyUp Series are sorted in classes of 190/200/210/220/230 Wp. With our TÜV certified and regularly calibrated measurement equipment we guarantee for each module to achieve at least nominal power or above. For each power class a + or - on the label indicate whether the I_{mpp} is in the upper or lower range. This gives during the installation the opportunity to optimize the yields up to 3% by sorting in strings.

Environmentally friendly process

The cell and module process in ITS improves the overall production efficiency of PV industry while achieving highest product quality. The raw material used for ITS Cells is usable only by ITS's unique process, resulting in the lowest carbon footprint for crystalline modules.

Long term warranty

Our modules come with a 2 year statutory warranty. Performance guarantee is 90% of output power for 10 years and 80% for 25 years, according to Warranty Conditions of ITS.



Module Types:

ITS 220 AC1 (Alkaline, 2 busbars, clear anodized frame)

Pmax	Wp	190	200	210	220	230
Power output tolerance	%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
Vmpp	V	27,55	28,00	28,20	28,30	28,50
Impp	A	6,90	7,20	7,50	7,70	8,00
Voc	V	35,60	35,90	36,30	36,50	36,70
Isc	A	7,55	7,80	8,10	8,30	8,60
IR****	A	15	16	16	17	17

ITS 220 FC1 (Acidic etched, 2 busbars, clear anodized frame)

Pmax	Wp	190	200	210	220	230
Power output tolerance	%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
Vmpp	V	26,9	27,50	28,00	28,70	29,40
Impp	A	7,1	7,30	7,50	7,70	7,80
Voc	V	35,1	35,60	36,10	36,60	37,10
Isc	A	7,8	7,90	8,10	8,20	8,30
IR****	A	16	16	16	16	17

ITS 220 EC1 (Acidic etched, 3 busbars, clear anodized frame)

Pmax	Wp	190	200	210	220	230
Power output tolerance	%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
Vmpp	V	27,2	28,07	28,67	28,83	29,11
Impp	A	6,98	7,13	7,32	7,63	7,90
Voc	V	35,00	35,82	36,06	36,60	36,72
Isc	A	7,37	7,58	7,71	7,95	8,23
IR****	A	15	15	15	16	16

NOCT **	45 ° C
typ. Nominal Power Pmax @ NOCT**	145 Wp ,153 Wp ,160 Wp ,167 Wp
typ. Nominal Voltage Umpp @ NOCT**	25,5 V ,25,6 V ,25,8 V ,26,2 V
typ. Open Circuit Voltage UOC @ NOCT**	33,6 V , 33,7 V , 34, 0 V , 34,3 V
typ. Short Circuit Current ISC@ NOCT**	6,28 A , 6,45 A , 6,71 A , 6,87 A
Module efficiency reduction at 200 W/m2 ***	-0.6 (± 0.3)% abs.
typ. Temperature Coefficient of PN	-0.46 %/K
typ. Temperature Coefficient of Uoc	-0.35 %/K
typ. Temperature Coefficient of ISC	0.05 %/K
Max. System Voltage	1000 V
IP protection level	IP 65
Module Technology	Glass-Foil-Laminate with clear anodized 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 polycrystalline solar cells, 156 x 156 mm, 180 µm ± 30 µm
Cables	Junction box with Tyco Plug connector cables, 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
Ambiente 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
Qualifications	IEC 61215 IEC 61730
Measuring tolerances	Pmax @ STC ± 5%, all other electric parameters ± 10%

- * 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. Values divided by comma represents 200Wp, 210Wp, 220Wp, 230Wp.
- *** Reduced performance modules with the decrease in the intensity of irradiation of 1000 W/m² and 200 W/m², temperature 25 °C according EN 60904-1
- **** Return current permissible use an external power supply is authorized only if the modules use a fuse calibrated to < 2 x ISC @ STC*