



Product datasheet

IBC Module Transparent 445 - 455 LS-TA2

High-quality double-glazed solar modules
made of monocrystalline half-cut cells.



Extended performance warranty

Guaranteed higher long-term electricity profits owed to TOPCon technology.



Environmentally friendly

Free from per- and polyfluoroalkyl substances (PFAS) for a more environmentally friendly and healthier future.



Bifacial power generation

Up to 25% higher yield caused by double-sided active module, which absorbs sunlight with the front and back.



Better cell protection

The front and back glass layer protects the cells from damaging and environmental impacts

You also benefit from:

- a positive power tolerance (-0/+3%)
- increased mechanical stability (5,400 Pa)
- a German guarantor
- 100% proved quality
- 15 years combination warranty on modules and mounting systems
- a 30-year performance warranty
- a 25-year product warranty

Online shop:

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ISO 14001:2015
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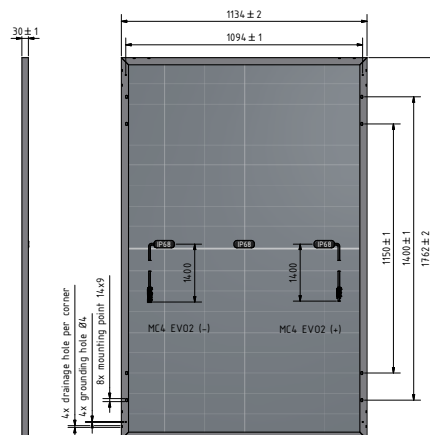


IEC 61215
IEC 61730
Regular Production
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**ENGINEERED
IN
GERMANY**

Have sun!



IBC Module	Transparent 445 LS-TA2	Transparent 450 LS-TA2	Transparent 455 LS-TA2
Article number	2006300007 2006300021	2006300006 2006300020	2006300027
Electrical data (STC)³			
STC Power P _{max} (Wp)	445	450	455
STC Nominal Voltage U _{mp} (V)	33.71	33.91	34.11
STC Nominal Current I _{mp} (A)	13.2	13.27	13.34
STC Open Circuit Voltage U _{oc} (V)	40.05	40.25	40.45
STC Short Circuit Current I _{sc} (A)	14.1	14.17	14.24
Module Efficiency (%)	22.3	22.5	22.8
Power Tolerance (%)	-0/+3	-0/+3	-0/+3
Electrical data (NMOT)			
NMOT (°C)	42	42	42
800 W/m ² NMOT AM 1.5 Power P _{max} (Wp)	335	339	343
800 W/m ² NMOT AM 1.5 Nominal Voltage U _{mp} (V)	31.49	31.68	31.86
800 W/m ² NMOT AM 1.5 Open Circuit Voltage U _{oc} (V)	37.94	38.13	38.32
800 W/m ² NMOT AM 1.5 Short Circuit Current I _{sc} (A)	11.36	11.41	11.47
Relative Efficiency Reduction at 200 W/m ² (%)	2.44	2.42	2.46
Electrical Specifications⁴ (BNPI⁵)			
BNPI Power P _{max} (Wp)	492	497	503
BNPI Nominal Voltage U _{mp} (V)	33.75	33.95	34.15
BNPI Nominal Current I _{mp} (A)	14.57	14.64	14.72
BNPI Open Circuit Voltage U _{oc} (V)	40.05	40.25	40.45
BNPI Short Circuit Current I _{sc} (A)	15.51	15.59	15.67
Temperature coefficient (linear)			
Tempcoeff I _{sc} (%/°C)	+0.048	+0.048	+0.048
Tempcoeff U _{oc} (mV/°C)	-100.13	-100.63	-101.13
Tempcoeff P _{mp} (%/°C)	-0.29	-0.29	-0.29

Operating conditions		
Max. System Voltage (V)	1500	
Application Class	A	
Reverse Current Ir (A)	30	
Fuse protection from parallel strings	3	
Protection class	II (DIN EN 61140)	
Fire protection	Class A (IEC 61730-ANSI/UL790)	
Mechanical properties		
Dimensions (L × W × H in mm)	1762 × 1134 × 30	
Weight (kg)	24.5	
Max. Test load, Push/Pull (Pa)	5400/2400	
Max. Design load ² , Push/Pull (Pa)	3600/1600	
Front side (mm)	2.0 (low-iron photovoltaic glass and anti-reflective coating)	
Back side (mm)	2.0 (low-iron photovoltaic glass)	
Frame	anodized aluminium, sturdy hollow-chamber frame	
Cells	12 × 9 mono-crystalline silicon cells	
Connection type	Stäubli MC4-EVO 2A	
Warranties and certification		
Product warranty	25 years ¹	
Performance warranty	30 years ¹	
Annual degradation	year 1	1.0 %
	year 2-30	0.4 %
Certification	IEC 61215, IEC 61730-1/-2, ISO 9001, ISO 14001, OHSAS 18001	
Packaging information		
Number of modules per pallet	36	
Number of pallets per truck	26	
Dimensions incl. pallet (L × W × H in mm)	1800 x 1140 x 1250	
Gross weight incl. double pallet (kg)	920	
Stackability per pallet	2-fold	

1) The linear power and product warranty are only valid for installations within Europe and Japan. The warranty requires installation according to the valid installation instructions. Standard test conditions: 1000 W/m² irradiation with a spectral distribution of AM1.5 and a cell temperature of 25°C, 800 W/m², NOCT. Information according to EN 60904-3 (STC). All values according to DIN EN 50380. Errors and changes reserved.
The precise conditions and content can be taken from the respectively valid version of the product and power warranty, which you can obtain from your IBC Premium Partner.

2) Loads according to IEC 61215-2:2016, max. design load

3) Measurement tolerances +/- 3 % at STC: 1000 W/m², 25 +/- 2 °C, AM 1.5

4) Measurements according to IEC 60904-3, Measurement tolerance: I_{sc}: +/- 4%,
V_{oc}: +/- 3%, Test uncertainty for P_{max}: +/- 3%

5) BNPI: Front radiation 1000 W/m², Rear radiation 135 W/m², Module temperature 25°C, AM=1.5

Your Premium Partner