IBC SOLAR

Have sun!

according to IEC 61730-2

Fire protection Class A

Product datasheet

IBC Module Transparent 460 | 465 LS-TZ1

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:
Find our products and further information here.

ENGINEERED IN GERMANY

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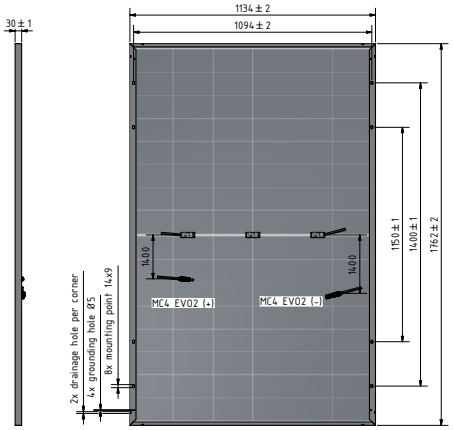

IBC Module	Transparent 460 LS-TZ1	Transparent 465 LS-TZ1
Article number	2006300046	2006300047
Electrical data (STC)[3]		
STC Power Pmax (Wp)	460	465
STC Nominal Voltage Umpp (V)	30.95	31.21
STC Nominal Current Impp (A)	14.87	14.91
STC Open Circuit Voltage Uoc (V)	36.32	36.46
STC Short Circuit Current Isc (A)	15.83	15.88
Module Efficiency (%)	23	23.3
Power Tolerance (%)	-0/+3	-0/+3
Electrical data (NMOT)		
NMOT (°C)	42	42
800 W/m² NMOT AM 1.5 Power Pmax (Wp)	351	354
800 W/m² NMOT AM 1.5 Nominal Voltage Umpp (V)	29.04	29.28
800 W/m² NMOT AM 1.5 Open Circuit Voltage Uoc (V)	34.96	35.09
800 W/m² NMOT AM 1.5 Short Circuit Current Isc (A)	12.76	12.8
Relative Efficiency Reduction at 200 W/m² (%)	3	3
Electrical Specifications[4] (BNPI[5])		
BNPI Power Pmax (Wp)	508	514
BNPI Nominal Voltage Umpp (V)	30.95	31.21
BNPI Nominal Current Impp (A)	15.40	15.5
BNPI Open Circuit Voltage Uoc (V)	35.85	35.98
BNPI Short Circuit Current Isc (A)	17.97	18.08
Temperature coefficient (linear)		
Tempcoeff Isc (%/°C)	+0.048	+0.048
Tempcoeff Uoc (mV/°C)	-90.8	-91.15
Tempcoeff Pmpp (%/°C)	-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
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 AM 1.5 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: Isc: +/-4%, Voc: +/-3%, Test uncertainty for Pmax: +/-3%
5) BNPI: Front radiation 1000 W/m², Rear radiation 135 W/m², Module temperature 25°C, AM=1.5

Your Premium Partner

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