



## IBC EcoLine - The reliable choice for steady returns

### IBC MonoSol 190MS, 195MS

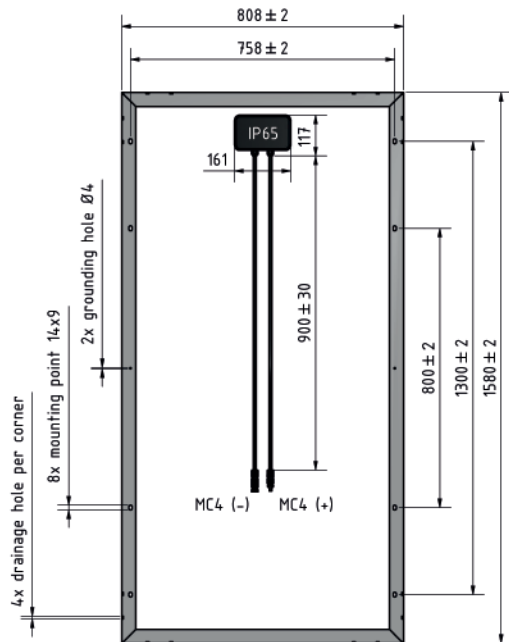
Solar modules made by monocrystalline silicon

Whether for single family homes, industrial roofs or open spaces - the trusted monocrystalline solar modules, IBC MonoSol, are perfectly suited for anyone placing high demands on quality and cost efficiency. IBC SOLAR defines the most stringent specifications for components used, ensuring you the best results. Through their monocrystalline cell technology, these solar modules achieve a high level of efficiency, even in cases of low insolation. By considering the light-triggered degradation (LID effect) when defining the module output, you'll reap excellent returns.

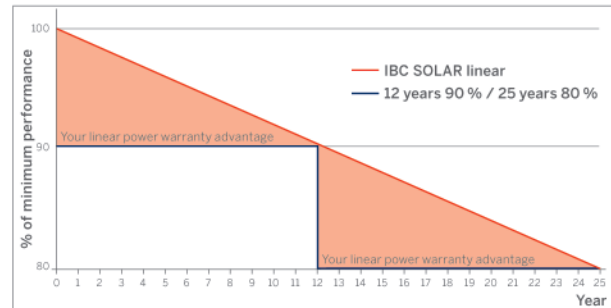
#### Highlights

- 10-year product warranty\*
- 25 years linear power warranty\*  
linear power decrease of no more than 0,8 % per year, 80% / 25 years
- Power tolerance -0 / +5 Wp

- Low-iron solar glass (thickness 3,2 mm) for improved light transmission and sturdy hollow-chamber frame (50mm)
- Tested according IEC 61215 for snow loads up to 5400 Pa (ca. 550 kg/m<sup>2</sup>)
- IEC 61730, application class A for system voltages up to 1000 V, protection class II
- IEC 61215 tested and certified
- Produced in ISO 9001 and ISO 14001 certified factories
- SGS TÜV Saar certified manufacturing plant
- 100% end control with individual registration of the electrical characteristics
- Quality tested by IBC SOLAR in own laboratory with climate chambers and flasher with integrated electroluminescence measurement



Progression of the power warranty



## TECHNICAL DATA

IBC MonoSol	190 MS	195 MS
STC Power Pmax (Wp)	190	195
STC Nominal Voltage Umpp (V)	36.6	36.8
STC Nominal Current Impp (A)	5.19	5.30
STC Open circuit voltage Uoc (V)	45.2	45.4
STC Short circuit current Isc (A)	5.56	5.67
800 W/m <sup>2</sup> NOCT AM1.5 Power Pmax (Wp)	135.2	139.1
800 W/m <sup>2</sup> NOCT AM1.5 Nominal Voltage Umpp (V)	33.4	33.8
800 W/m <sup>2</sup> NOCT AM1.5 Open Circuit Voltage Uoc (V)	41.5	41.8
800 W/m <sup>2</sup> NOCT AM1.5 Short Circuit Current Isc (A)	4.42	4.51
Rel. efficiency reduction @ 200W/m <sup>2</sup> (%)	3.0	3.0
Tempcoeff Isc (%/°C)	+0.05	+0.05
Tempcoeff Uoc (mV/°C)	-158	-159
Tempcoeff Pmpp (%/°C)	-0.47	-0.47
Module Efficiency (%)	14.9	15.3
NOCT (°C)	48	48
Max. System Voltage (V)	1000	1000
Max. Reverse Current Ir (A)	12	12
Current value String fuse (A)	10	10
Fuse protection from parallel strings	4	4
Height (mm)	45	45
Weight (kg)	15.5	15.5
Article number	2002800010	2002800011

2013-01-21

Your IBC SOLAR partner:

\* Product and power warranty in accordance with the version of the full warranty conditions received from your specialized IBC SOLAR partner at the time of installation. This warranty is valid only when the relevant product is installed in accordance with the applicable installation instructions. Electrical values under standard test conditions: 1000W/m<sup>2</sup>; 25°C, AM1.5. 800 W/m<sup>2</sup>, NOCT. Specifications according EN60904-3 (STC). All datas according DIN EN 50380. Subject to modifications that represent progress.