

Have sun!

additional  
40 months  
product-  
warranty



IBC SOLAR is presenting the efficient and high-performance IBC MonoSol 415 | 420 MS-HC-N anniversary module to you this year. The module is equipped with TOPCon cell technology, which achieves very high efficiency levels. This increases the module output over the same area. The module also impresses with improved temperature efficiency and reduces degradation with the LID and LeTID effect. In addition to the 30-year performance warranty, IBC SOLAR is extending the 15-year product warranty by a further 40 months as part of its 40-year anniversary.

[Product data sheet](#)

**You also benefit from:**

- a positive power tolerance (-0/+3%)
- increased mechanical stability (5400 Pa)
- a German warrantor
- 100% tested quality
- an improved shadowing management thanks to half-cut-technology

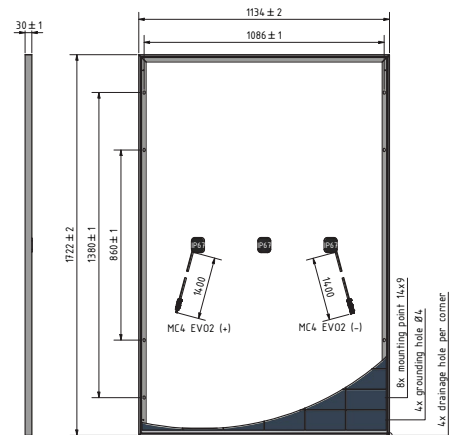
# IBC MonoSol 415 | 420 MS10-HC-N

Our 40th anniversary module  
with extended product warranty

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On modules & mounting systems  
**15 years  
combination  
warranty**



IBC MonoSol	415 MS10-HC-N	420 MS10-HC-N
Article number	2002800095 2002800102	2002800096 2002800103
<b>Electrical data (STC)<sup>3</sup></b>		
STC Power P <sub>max</sub> (W <sub>p</sub> )	415	420
STC Nominal Voltage U <sub>mp</sub> (V)	31.32	31.51
STC Nominal Current I <sub>mp</sub> (A)	13.25	13.33
STC Open Circuit Voltage U <sub>oc</sub> (V)	37.92	38.11
STC Short Circuit Current I <sub>sc</sub> (A)	13.99	14.07
Module Efficiency (%)	21.25	21.51
Power Tolerance (%)	-0/+3	-0/+3
<b>Electrical data (NMOT)</b>		
NMOT (°C)	45	45
800 W/m <sup>2</sup> NMOT AM 1.5 Power P <sub>max</sub> (W <sub>p</sub> )	312	316
800 W/m <sup>2</sup> NMOT AM 1.5 Nominal Voltage U <sub>mp</sub> (V)	29.21	29.34
800 W/m <sup>2</sup> NMOT AM 1.5 Open Circuit Voltage U <sub>oc</sub> (V)	36.02	36.2
800 W/m <sup>2</sup> NMOT AM 1.5 Short Circuit Current I <sub>sc</sub> (A)	11.29	11.36
Relative Efficiency Reduction at 200 W/m <sup>2</sup> (%)	3.0	3.0
<b>Temperature coefficient (linear)</b>		
Tempkoeff I <sub>sc</sub> (%/°C)	0.046	0.046
Tempkoeff U <sub>oc</sub> (mV/°C)	-94.80	-95.28
Tempkoeff P <sub>mp</sub> (%/°C)	-0.3	-0.3

<b>Operating conditions</b>	
Max. System Voltage (V)	1500
Application Class	A
Reverse Current I <sub>r</sub> (A)	25
Fuse protection from parallel strings	2
Protection class	II (DIN EN 61140)
Fire Safety Class	Class C (IEC 61730-ANSI/UL790)
<b>Mechanical properties</b>	
Dimensions (L × W × H in mm)	1722 × 1134 × 30
Weight (kg)	22.0
Max. Test load, Push/Pull (Pa)	5400/2400
Max. Design load <sup>2</sup> , Push/Pull (Pa)	3600/1600
Front sheet (mm)	3.2 (low-iron photovoltaic glass and anti-reflective coating)
Frame	anodized aluminium, sturdy hollow-chamber frame
Cells	12 × 9 mono-crystalline silicon cells
Connection type	EVO2
<b>Warranties and certification</b>	
Product warranty	15 years <sup>1</sup> + 40 months
Power warranty	30 years, linear <sup>1</sup>
Certification	IEC 61215, IEC 61730-1/-2, ISO 9001, ISO 14001, OHSAS 18001
<b>Packaging information</b>	
Number of modules per pallet	36
Number of pallets per 40' container	26
Dimensions incl. pallet (L×W×H in mm)	1782 x 1140 x 1249
Gross weight incl. double pallet (kg)	837
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/m<sup>2</sup> irradiation with a spectral distribution of AM1.5 and a cell temperature of 25°C. 800 W/m<sup>2</sup>, 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/m<sup>2</sup>, 25 +/- 2 °C, AM 1.5