

Have sun!

On modules & mounting systems

15 years  
combination  
warranty



Product datasheet

# IBC MonoSol 410 - 425 MS10-HC-N

Efficiency and high-performance  
in combination.

Online shop:  
Find our products  
and further  
information here.



### Extended performance warranty

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

### Higher low light output

Even in low light conditions, for example at dusk and on cloudy days, increased power production is ensured.

### Optimized temperature coefficient

More power generation at hot temperatures by TOPCon technology.

### Multi-busbar technology

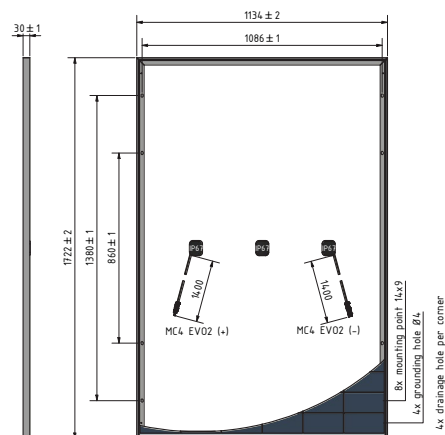
Reduced power and shading losses by using of 16 cell connectors.

### You also benefit from:

- a positive power tolerance (-0/+3%)
- increased mechanical stability (5400 Pa)
- a German guarantor
- 100% proved quality
- a 30-year performance warranty
- a 15-year product warranty



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IBC MonoSol	410 MS10-HC-N	415 MS10-HC-N	420 MS10-HC-N	425 MS10-HC-N
Article number	2002800094 2002800101	2002800109 2002800110	2002800105 2002800106	2002800107 2002800108

#### Electrical data (STC)<sup>2</sup>

	410	415	420	425
STC Power P <sub>max</sub> (Wp)	410	415	420	425
STC Nominal Voltage U <sub>mpp</sub> (V)	31.13	31.32	31.51	31.70
STC Nominal Current I <sub>mpp</sub> (A)	13.17	13.25	13.33	13.41
STC Open Circuit Voltage U <sub>oc</sub> (V)	37.73	37.92	38.11	38.30
STC Short Circuit Current I <sub>sc</sub> (A)	13.91	13.99	14.07	14.15
Module Efficiency (%)	21.0	21.25	21.51	21.76
Power Tolerance (%)	-0/+3	-0/+3	-0/+3	-0/+3

#### Electrical data (NMOT)

	410	415	420	425
NMOT (°C)	45	45	45	45
800 W/m <sup>2</sup> NMOT AM 1.5 Power P <sub>max</sub> (Wp)	308	312	316	320
800 W/m <sup>2</sup> NMOT AM 1.5 Nominal Voltage U <sub>mpp</sub> (V)	29.06	29.21	29.34	29.5
800 W/m <sup>2</sup> NMOT AM 1.5 Open Circuit Voltage U <sub>oc</sub> (V)	35.84	36.02	36.2	36.38
800 W/m <sup>2</sup> NMOT AM 1.5 Short Circuit Current I <sub>sc</sub> (A)	11.23	11.29	11.36	11.42
Relative Efficiency Reduction at 200 W/m <sup>2</sup> (%)	3.0	3.0	3.0	3.0

#### Temperature coefficient (linear)

	410	415	420	425
Tempcoeff I <sub>sc</sub> (%/°C)	0.046	0.046	0.046	0.046
Tempcoeff U <sub>oc</sub> (mV/°C)	-94.33	-94.80	-95.28	-95.75
Tempcoeff P <sub>mp</sub> (%/°C)	-0.3	-0.3	-0.3	-0.3

#### Operating conditions

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 protection	Class C (IEC 61730-ANSI/UL790)

#### Mechanical properties

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

#### Warranties and certification

Product warranty	15 years <sup>1</sup>
Performance warranty	30 years <sup>1</sup>
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 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 AM 1.5 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

Your Premium Partner