

TRANSPARENT BACKSHEET

**IMPROVED LOAD**

pressure **6200**

tensile **4200**

**TESTED**

TOPCON CELLS INSIDE

**16BB**

HALF-CELL MONO PV MODULE

# IBEX 108BF-MHC-TOPCON

410/415/420/425/430

IBEX HIGH EFFICIENCY MONOCRYSTALLINE SOLAR MODULES WITH TOPCON CELLS TECHNOLOGY



BETTER HIGH-TEMPERATURE POWER GENERATION PERFORMANCE



HIGHER DOUBLE-SIDED REVENUE



BETTER LOW LIGHT PERFORMANCE



LOWER COST OF KILOWATT-HOUR ELECTRICITY (LCOE)



LOWER ATTENUATION



HIGH TECHNOLOGY SOLAR MODULES

- IEC61215(2016), IEC61730(2016)
- ISO9001:2015: Quality Management System
- ISO45001:2018 Occupational health and safety management systems



# IBEX 108BF-MHC-TOPCON 410-430

## MONOCRYSTALLINE SOLAR MODULE

### ELECTRICAL DATA AT STC

Module Type	410W	415W	420W	425W	430W
	<b>STC</b>	<b>STC</b>	<b>STC</b>	<b>STC</b>	<b>STC</b>
Rated power P <sub>mpp</sub> [Wp]	410	415	420	425	430
P <sub>mpp</sub> range to	0/+5W	0/+5W	0/+5W	0/+5W	0/+5W
Rated current I <sub>mpp</sub> [A]	13.17A	13.25A	13.33A	13.41A	13.49A
Rated voltage V <sub>mpp</sub> [V]	31.13V	31.32V	31.51V	31.70V	31.88V
Short-circuit current I <sub>sc</sub> [A]	13.91A	13.99A	14.07A	14.15A	14.23A
Open-circuit voltage U <sub>oc</sub> [V]	37.73V	37.92V	38.11V	38.30V	38.49V
Efficiency at STC up to	21.00%	21.25%	21.51%	21.76%	22.02%
Application Class	Class A	Class A	Class A	Class A	Class A

### PARAMETER OF DOUBLE-SIDED POWER GENERATION (430W)

	P <sub>max</sub> /W	V <sub>mpp</sub> /V	I <sub>mpp</sub> /A	V <sub>oc</sub> /V	I <sub>sc</sub> /A
P <sub>max</sub> gain					
5%	451	31.88	14.16	38.49	14.94
15%	494	31.88	15.51	38.49	16.36
25%	537	31.88	16.86	38.49	17.79

STC: 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5.

### LIMITING VALUES

Max. system voltage [V]	1500V DC (IEC)
Max. return current [I]	30A
Operating Temperature	- 40 to +85°C
Max. tested pressure load [Pa] <sup>2</sup>	6200
Max. tested tensile load [Pa] <sup>2</sup>	4200

### TEMPERATURE COEFFICIENT

I <sub>sc</sub>	V <sub>oc</sub>	P <sub>max</sub>
0.046% /°C	-0.25% /°C	-0.30% /°C

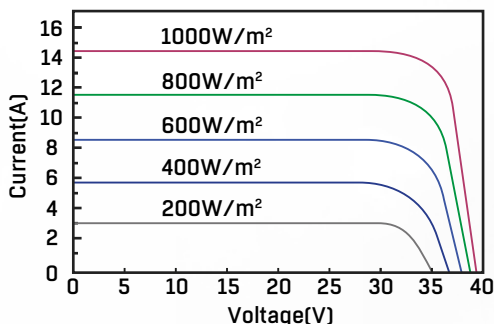
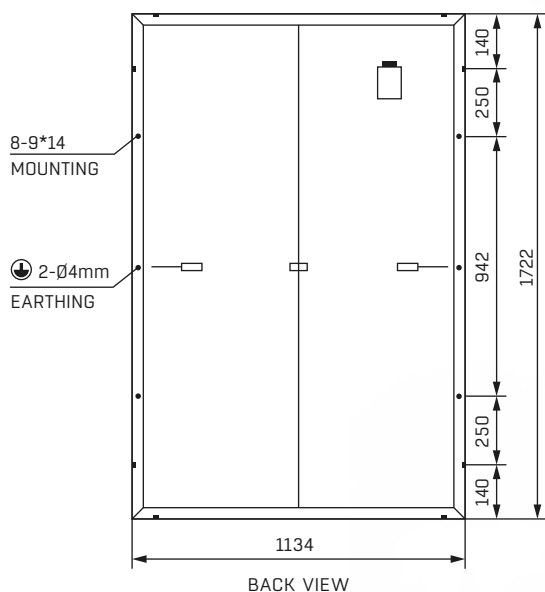
### SPECIFICATIONS

Type of cells	N-type of Bifacial Black Mono
Number of cells	108 (12 x 9)   182x91 mm
Dimensions	1722 x 1134 x 30 mm
Weight	21.5 kg
Front-side glass	3.2 mm <sup>high transmission, low iron, tempered glass</sup>
Frame	Anodized Aluminium Alloy
Junction box	Split Junction Box (IP68)
Cable	4 mm <sup>2</sup> , +350mm,-350mm Cust.Length
Diodes	3 Diodes
Plug-in connection	MC4 Compatible
Hail test (max. hailstrom)	Ø45mm   23 m/s   83 km/h

### PACKING CONFIGURATION

Container	40 HQ	Pieces Per Pallet	36
Pallets Per container	26	Pieces per Container	936

The specifications and average values can vary slightly. Relevant is the corresponding data of the individual measurement. Specifications are subject to change without notice. Measurement tolerance depending on equipment: rated power +/- 3%, other values +/- 10%. All information given in this data sheet corresponds to DIN EN 50380. A potential light-induced degradation of the power after commissioning is not considered here. Further information in the installation manuals. <sup>1</sup>The specific warranty conditions are given under [www.swissenergy-solar.ch](http://www.swissenergy-solar.ch) | <sup>2</sup> Horizontal mounted | <sup>3</sup> Tolerance L/W = +/- 3 mm. H +/- 2mm, the dimensions given in the order confirmation will be decisive | <sup>4</sup> Location and dimensions of holes on request



### WARRANTY

**25 YEARS**  
PRODUCT WARRANTY

**30 YEARS**  
POWER WARRANTY

## CE KONFORMITÄTSERKLÄRUNG/ CE DECLARATION OF CONFORMITY:

HERSTELLER NAME   NAME OF MANUFACTURER	SWISS SOLAR AG
ADRESSE DES HERSTELLERS   MANUFACTURER ADDRESS	Baarerstrasse 25, CH-6300 Zug, Schweiz   Switzerland
PRODUKT   PRODUCT	Photovoltaikmodul   Photovoltaic Module
DATUM DER CE KENNZEICHNUNG   CE DATE OF MARKING	01.01.2023
MARKE   BRAND	swiss solar

## MODEL TYPEN / MODEL TYPES:

Wir erklären auf eigene Verantwortung, dass das oben genannte Produkt in Konformität mit den folgenden Standards ist:  
We declare under sole responsibility, that the above-referenced product is in conformity with the standards of:

### MONOKRISTALLINE MODULE | MONOCRYSTALLINE MODULES

- IBEX 60-320-330M-PERC
- IBEX 72-380-390M-PERC
- IBEX 120MHC-DUO
- IBEX 120MHC-DUO-BLACK
- IBEX 120MHC-COSMOS
- IBEX 120MHC-COSMOS-BLACK,
- IBEX 144MHC-DUO
- IBEX 144MHC-COSMOS,
- IBEX 144MHC-COSMOS BLACK
- IBEX 120MHC-AEON
- IBEX 120MHC-AEON BIFACIAL
- IBEX 144MHC-AEON
- IBEX 144MHC-AEON BIFACIAL
- IBEX 156MHC-AEON BIFACIAL
- IBEX 50M-EIGER
- IBEX 50M-EIGER BLACK
- IBEX 54M-EIGER
- IBEX 54M-EIGER BLACK
- IBEX 60M-EIGER
- IBEX 60M-EIGER BLACK
- IBEX 66M-EIGER
- IBEX 66M-EIGER BLACK
- IBEX-108MHC-EIGER
- IBEX-108MHC-EIGER-BLACK
- IBEX 108BF-MHC-EIGER
- IBEX 108MHC-EIGER BIFACIAL
- IBEX-120MHC-EIGER
- IBEX-120MHC-EIGER-BLACK
- IBEX 120BF-MHC-EIGER
- IBEX 120MHC-EIGER BIFACIAL
- IBEX-132MHC-EIGER
- IBEX-132MHC-EIGER-BLACK
- IBEX 132BF-MHC-EIGER
- IBEX 132MHC-EiGER BIFACIAL
- IBEX-144MHC-EIGER
- IBEX-144MHC-EIGER-BLACK
- IBEX 144MHC-EIGER BIFICIAL
- IBEX 144BF-MHC-EIGER
- IBEX-156MHC-EIGER-BLACK
- IBEX 156MHC-EIGER BIFICIAL
- IBEX 156BF-MHC-EIGER
- IBEX108MHC TOPCON
- IBEX108MHC TOPCON-BLACK
- IBEX132MHC TOPCON
- IBEX132MHC TOPCON-BLACK
- IBEX132BF MHC TOPCON
- IBEX144MHC TOPCON
- IBEX144BF MHC TOPCON
- IBEX156MHC TOPCON
- IBEX156MHC TOPCON-BLACK
- IBEX156BF MHC TOPCON
- IBEX60M TOPCON
- IBEX66M TOPCON

Directive 2014/30/EU  
Directive 2014/35/EU

(Electro Magnetic Compability Directive)  
(Low Voltage Directive)

## VORSCHRIFTEN DIE PHOTOVOLTAIKMODULE BETREFFEND | STANDARDS USED FOR PHOTOVOLTAIC MODULES:

### Directive 2014/30/EU (EMC Directive)

EN 61000-6-1:2007  
EN 61000-6-3:2007 + A1:2011

EN 61000-3-2:2014  
EN 61000-3-3:2013

### Directive 2014/35/EU (Low Voltage Directive)

EN 61730-1:2007 A1:2012 + A2:2013  
EN 61730-2:2007 A1:2012



**Pavel Sadovskij**

MOD of SSWISS GROUP AG

Zug, 01/01/2023





Product Service

# CERTIFICATE

No. Z2 110727 0001 Rev. 00

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-Crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262009501-00

**Valid until:** 2025-07-20

**Date,** 2020-11-25

( Zhulin Zhang )

# CERTIFICATE

No. Z2 110727 0001 Rev. 00

## Model(s):

1000 V DC system voltage Single Glass modules:  
IBEX 72-xxxM-PERC, xxx= 330 to 390 in step of 5;  
IBEX 60-xxxM-PERC, xxx= 275 to 325 in step of 5;

1500 V DC system voltage Single Glass modules:  
IBEX 72-xxxM-PERC HV, xxx= 330 to 390 in step of 5;  
IBEX 60-xxxM-PERC HV, xxx= 275 to 325 in step of 5;

Half cell 1000 V DC system voltage Single Glass modules:  
IBEX 144MHC-xxx-DUO, xxx= 370 to 415 in step of 5;  
IBEX 120MHC-xxx-DUO, xxx= 305 to 345 in step of 5;  
IBEX 144MHC-xxx-COSMOS, xxx= 420 to 460 in step of 5;  
IBEX 120MHC-xxx-COSMOS, xxx= 350 to 380 in step of 5;

Half cell 1500 V DC system voltage Single Glass modules:  
IBEX 144MHC-xxx-DUO HV, xxx= 370 to 415 in step of 5;  
IBEX 120MHC-xxx-DUO HV, xxx= 305 to 345 in step of 5;  
IBEX 144MHC-xxx-COSMOS HV, xxx= 420 to 460 in step of 5;  
IBEX 120MHC-xxx-COSMOS HV, xxx= 350 to 380 in step of 5;

xxx is standing for rated output power at STC.

## Parameters:

Construction:	Framed, with Junction box, Cable and connectors.
Test Laboratory:	Yangzhou Opto-Electrical Products Testing Institute No.10 West Kaifa Road, Yangzhou 225009 Jiangsu, P.R.China.
Safety Class:	Class II
Max. system voltage:	1000 V DC or 1500 V DC
Fire Safety Class:	Class C according to UL790

## Tested according to:

IEC 61215-1:2016  
IEC 61215-1-1:2016  
IEC 61215-2:2016  
IEC 61730-1:2016  
IEC 61730-2:2016

## Production Facility(ies):

083334



Product Service

# CERTIFICATE

No. Z2 110727 0002 Rev. 00

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-Crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262106201-00

**Valid until:** 2025-12-17

**Date,** 2021-05-07

( Zhulin Zhang )





Product Service

# CERTIFICATE

No. Z2 110727 0002 Rev. 00

## Model(s):

1000 V DC system voltage Single Glass modules:  
IBEX 72-xxxM-PERC, xxx= 330 to 390 in step of 5;  
IBEX 60-xxxM-PERC, xxx= 275 to 325 in step of 5;

1500 V DC system voltage Single Glass modules:  
IBEX 72-xxxM-PERC HV, xxx= 330 to 390 in step of 5;  
IBEX 60-xxxM-PERC HV, xxx= 275 to 325 in step of 5;

Half cell 1000 V DC system voltage Single Glass modules:  
IBEX 144MHC-xxx-DUO, xxx= 370 to 415 in step of 5;  
IBEX 120MHC-xxx-DUO, xxx= 305 to 345 in step of 5;  
IBEX 144MHC-xxx-COSMOS, xxx= 430 to 460 in step of 5;  
IBEX 120MHC-xxx-COSMOS, xxx= 360 to 380 in step of 5;

Half cell 1500 V DC system voltage Single Glass modules:  
IBEX 144MHC-xxx-DUO HV, xxx= 370 to 415 in step of 5;  
IBEX 120MHC-xxx-DUO HV, xxx= 305 to 345 in step of 5;  
IBEX 144MHC-xxx-COSMOS HV, xxx= 430 to 460 in step of 5;  
IBEX 120MHC-xxx-COSMOS HV, xxx= 360 to 380 in step of 5;  
xxx is standing for rated output power at STC

## Parameters:

Construction:	Framed, with Junction box, Cable and Connectors.
Safety Class:	Class II
Maximum System Voltage:	1500 V DC or 1000 V DC
Fire Safety Class:	Class C
Severity of Salt mist test:	Severity 5

## Tested according to:

IEC 61215-1:2016  
IEC 61215-1-1:2016  
IEC 61215-2:2016  
IEC 61730-1:2016  
IEC 61730-2:2016  
IEC 61701:2011



Product Service

# CERTIFICATE

No. Z2 110727 0003 Rev. 00

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262213701-00

**Valid until:** 2027-04-21

**Date,** 2022-08-29

( Zhulin Zhang )





# CERTIFICATE

No. Z2 110727 0003 Rev. 00

## Model(s):

IBEX-72M PERC xxx, xxx=340-405, in step of 5;  
 IBEX-60M PERC xxx, xxx=285-340, in step of 5;  
 IBEX-54M PERC xxx, xxx=255-275, in step of 5;  
 IBEX-144MHC COSMOS xxx, xxx=390-455, in step of 5;  
 IBEX-120MHC COSMOS xxx, xxx=325-380, in step of 5;  
 IBEX-132MHC COSMOS xxx, xxx=385-415, in step of 5;  
 IBEX-156MHC EiGER xxx, xxx=550-605, in step of 5;  
 IBEX-144MHC EiGER xxx, xxx=510-555, in step of 5;  
 IBEX-132MHC EiGER xxx, xxx=470-510, in step of 5;  
 IBEX-120MHC EiGER xxx, xxx=425-465, in step of 5;  
 IBEX-108MHC EiGER xxx, xxx=390-415, in step of 5;  
 IBEX-66M EiGER HP xxx, xxx=635-675, in step of 5;  
 IBEX-60M EiGER HP xxx, xxx=580-610, in step of 5.  
 xxx is standing for rated output power at STC.

## Parameters:

Safety Class:	Class II
Max. System Voltage:	1500V DC
Test Laboratory:	Changzhou HuaYang Inspection and Testing Technology Co., Ltd No.8 Lanxiang Road, Wujin Economic Development Zone, Changzhou, Jiangsu, China.
Construction:	Framed, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790

## Tested according to:

IEC 61215-1:2016  
 IEC 61215-1-1:2016  
 IEC 61215-2:2016  
 IEC 61730-1:2016  
 IEC 61730-2:2016



Product Service

# CERTIFICATE

No. Z2 110727 0003 Rev. 01

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262213701-01

**Valid until:** 2028-07-19

**Date,** 2023-08-28

( Zhulin Zhang )

# CERTIFICATE

No. Z2 110727 0003 Rev. 01

## Model(s):

IBEX-72M PERC xxx, xxx=340-405, in step of 5;  
IBEX-60M PERC xxx, xxx=285-340, in step of 5;  
IBEX-54M PERC xxx, xxx=255-275, in step of 5;  
IBEX-144MHC COSMOS xxx, xxx=390-465, in step of 5;  
IBEX-120MHC COSMOS xxx, xxx=325-385, in step of 5;  
IBEX-132MHC COSMOS xxx, xxx=385-425, in step of 5;  
IBEX-156MHC EiGER xxx, xxx=550-605, in step of 5;  
IBEX-144MHC EiGER xxx, xxx=510-555, in step of 5;  
IBEX-132MHC EiGER xxx, xxx=470-510, in step of 5;  
IBEX-120MHC EiGER xxx, xxx=425-465, in step of 5;  
IBEX-108MHC EiGER xxx, xxx=390-415, in step of 5;  
IBEX-66M EiGER HP xxx, xxx=635-675, in step of 5;  
IBEX-60M EiGER HP xxx, xxx=580-610, in step of 5;  
IBEX156MHC TOPCON xxx, xxx=585-635, in step of 5;  
IBEX144MHC TOPCON xxx, xxx=540-585, in step of 5;  
IBEX132MHC TOPCON xxx, xxx=495-535, in step of 5;  
IBEX120MHC TOPCON xxx, xxx=450-485, in step of 5;  
IBEX108MHC TOPCON xxx, xxx=405-435, in step of 5;  
IBEX156BF MHC TOPCON xxx, xxx=585-630, in step of 5;  
IBEX144BF MHC TOPCON xxx, xxx=540-580, in step of 5;  
IBEX132BF MHC TOPCON xxx, xxx=495-530, in step of 5;  
IBEX120BF MHC TOPCON xxx, xxx=450-480, in step of 5;  
IBEX108BF MHC TOPCON xxx, xxx=405-435, in step of 5;  
IBEX66M TOPCON xxx, xxx=655-695, in step of 5;  
IBEX60M TOPCON xxx, xxx=595-630, in step of 5.  
xxx is standing for rated output power at STC.

## Parameters:

Safety Class:	Class II
Max. System Voltage:	1500V DC
Test Laboratory:	Changzhou HuaYang Inspection and Testing Technology Co., Ltd No.8 Lanxiang Road, Wujin Economic Development Zone, Changzhou, Jiangsu, China.
Construction:	Framed, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790

## Tested according to:

IEC 61215-1:2016  
IEC 61215-1-1:2016  
IEC 61215-2:2016  
IEC 61730-1:2016  
IEC 61730-2:2016



Product Service

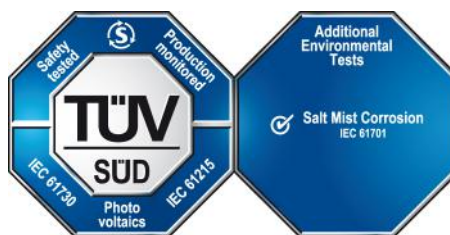
# CERTIFICATE

No. Z2 110727 0004 Rev. 00

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262213702-00

**Valid until:** 2027-05-24

**Date,** 2022-08-29

( Zhulin Zhang )



# CERTIFICATE

No. Z2 110727 0004 Rev. 00

**Model(s):**

Test method 8 of salt mist:  
 IBEX-144MHC COSMOS xxx, xxx=390-455 in step of 5;  
 IBEX-120MHC COSMOS xxx, xxx=325-380 in step of 5;  
 IBEX-132MHC COSMOS xxx, xxx=385-415, in step of 5;

Test method 6 of salt mist:  
 IBEX-156MHC EiGER xxx, xxx=550-605, in step of 5;  
 IBEX-144MHC EiGER xxx, xxx=510-555, in step of 5;  
 IBEX-132MHC EiGER xxx, xxx=470-510, in step of 5;  
 IBEX-120MHC EiGER xxx, xxx=425-465, in step of 5;  
 IBEX-108MHC EiGER xxx, xxx=390-415, in step of 5;  
 IBEX-66M EiGER HP xxx, xxx=635-675, in step of 5;  
 IBEX-60M EiGER HP xxx, xxx=580-610, in step of 5.  
 xxx is standing for rated output power at STC.

**Parameters:**

Safety Class:	Class II
Max. System Voltage:	1500V DC or 1000V DC
Construction:	Framed, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790
Test method of salt mist:	Test method 8 or Test method 6

**Tested according to:**

IEC 61215-1:2016  
 IEC 61215-1-1:2016  
 IEC 61215-2:2016  
 IEC 61730-1:2016  
 IEC 61730-2:2016  
 IEC 61701:2020



Product Service

# CERTIFICATE

No. Z2 110727 0005 Rev. 00

**Holder of Certificate:** **SWISS SOLAR AG**

Bahnhofstrasse 21  
6300 ZUG  
SWITZERLAND

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262213703-00

**Valid until:** 2027-05-24

**Date,** 2022-08-29

( Zhulin Zhang )



# CERTIFICATE

No. Z2 110727 0005 Rev. 00

**Model(s):**

IBEX-144MHC COSMOS xxx, xxx=390-455 in step of 5;  
 IBEX-120MHC COSMOS xxx, xxx=325-380 in step of 5;  
 IBEX-132MHC COSMOS xxx, xxx=385-415, in step of 5;  
 IBEX-156MHC EiGER xxx, xxx=550-605, in step of 5;  
 IBEX-144MHC EiGER xxx, xxx=510-555, in step of 5;  
 IBEX-132MHC EiGER xxx, xxx=470-510, in step of 5;  
 IBEX-120MHC EiGER xxx, xxx=425-465, in step of 5;  
 IBEX-108MHC EiGER xxx, xxx=390-415, in step of 5;  
 IBEX-66M EiGER HP xxx, xxx=635-675, in step of 5;  
 IBEX-60M EiGER HP xxx, xxx=580-610, in step of 5.  
 xxx is standing for rated output power at STC.

**Parameters:**

Safety Class:	Class II
Max. System Voltage:	1500V DC
Construction:	Framed, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790

**Tested according to:**

IEC 61215-1:2016  
 IEC 61215-1-1:2016  
 IEC 61215-2:2016  
 IEC 61730-1:2016  
 IEC 61730-2:2016  
 IEC 62716:2013



# Zertifikat *Certificate*

**Zertifikatsnummer Certificate No.:**

PV 50648865 0001

**Berichtsnummer Report No.:**

CN23TEY1 011

**Genehmigungsinhaber License Holder:**

SSWISS GROUP AG

Baarerstrasse 25

6300 Zug

Switzerland

**Fertigungsstätte Manufacturing Site:**

040-0002342376

**Prüfzeichen Test Mark:**

**Geprüft nach Tested according to:**

IEC 61215-1:2016

IEC 61215-1-1:2016

IEC 61215-2:2016

IEC 61730-1:2016

IEC 61730-2:2016

EN IEC 61730-1:2018

EN IEC 61730-2:2018

**Geräteidentifikation**
*Product Identification*
**Produkt:**

PV Module

*Product:*
**Modell:**

Modelle sind auf nächste(r) Seite(n) gelistet

*Type:*

Type designation(s) are listed on the next page(s)

**Technische Daten:**

Class II acc. to IEC 61140

*Technical Data:*

For other ratings, refer to the test report.

**Gültig bis:**

2028-08-07

*Date of expiry:*
**Gültig ab:**

2024-10-09

*Valid from:*
**Zertifizierungsstelle:**
*Certification body:*
**Ausstellungsdatum:**

2024-10-09

*Date of issue:*

Angela Yao



Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
*This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.*

**TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg**
<http://www.tuv.com/safety> E-mail: [markcheck@tuv.com](mailto:markcheck@tuv.com)

Fax: +49 221 806-3935

# Zertifikat *Certificate*

**Zertifikatsnummer** *Certificate No.:*

PV 50648865 0001

**Berichtsnummer** *Report No.:*

CN23TEY1 011

**Produkt** *Product:* PV Module

**Modell** *Type:*

**Bezeichnung** *Designation:*

Max. system voltage: up to 1500 VDC (Voc at STC):

With  $\frac{1}{2}$ cut of 210 Topcon c-Si solar cell:

IBEX 66M BF MHC TOPCON xxx (xxx=695-705, in steps of 5, 132 cells)

IBEX 60M BF MHC TOPCON xxx (xxx=630-640, in steps of 5, 120 cells)

With  $\frac{1}{2}$ cut of 210 mono c-Si solar cell:

IBEX 66M BF MHC EIGER xxx (xxx=635-670, in steps of 5, 132 cells)

IBEX 60M BF MHC EIGER xxx (xxx=580-610, in steps of 5, 120 cells)

With  $\frac{1}{2}$ cut of 182 Topcon solar cells:

IBEX 156BF MHC TOPCON xxx (xxx=585-625, in steps of 5, 156 cells)

IBEX 144BF MHC TOPCON xxx (xxx=540-580, in steps of 5, 144 cells)

IBEX 132BF MHC TOPCON xxx (xxx=495-530, in steps of 5, 132 cells)

IBEX 120BF MHC TOPCON xxx (xxx=450-485, in steps of 5, 120 cells)

IBEX 108BF MHC TOPCON xxx (xxx=405-435, in steps of 5, 108 cells)

With  $\frac{1}{2}$ cut of 182 mono c-Si cell

IBEX 144BF MHC EIGER xxx (xxx=505-565, in steps of 5, 144 cells)

IBEX 132BF MHC EIGER xxx (xxx=465-515, in steps of 5, 132 cells)

IBEX 120BF MHC EIGER xxx (xxx=425-470, in steps of 5, 120 cells)

IBEX 108BF MHC EIGER xxx (xxx=380-420, in steps of 5, 108 cells)

With  $\frac{1}{2}$ cut of 166 mono c-Si cell

IBEX 144BF EIGER xxx (xxx=420-460, in steps of 5, 144 cells)

IBEX 132BF EIGER xxx (xxx=385-420, in steps of 5, 132 cells)

IBEX 120BF EIGER xxx (xxx=350-380, in steps of 5, 120 cells)

xxx represents output power in Wp

Remarks:

Fire Rating: Class A (according to UL 790)

Design Load / Safety Factors: 3600 Pa / 1.5 (downward)

1600 Pa / 1.5 (upward)

Conditions:

The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.





# CERTIFICATE

**TÜV NORD CERT GmbH**  
herewith declares that

**SWISS SOLAR AG**  
Bahnhofstrasse 21, CH-6300 Zug, Switzerland

is authorized to provide the product mentioned below with the mark as illustrated:

Description of product (details see Annex 2):

**PV Modules with 7" Half Cut Mono-crystalline Silicon Solar Cells**



Valid from: 2021-04-15

Valid until: 2023-05-09

Tested according to: IEC / EN 61215-1:2016;  
IEC / EN 61215-1-1:2016;  
IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018;  
IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018;  
IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.

Registered No.: 44 780 21 406749 - 050

Manufacturer: see Annex 1

Test Report No.: 492011649.001

File No.: PVP04001/21P



**TÜV NORD CERT GmbH**  
Certification Body  
Consumer Products



Essen, 2021-04-15

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 21 406749 - 050

Seite / Page 1 von / of 1

Aktenzeichen: / File reference: PVP04001/21P

2021-04-15

**Manufacturer:**

Manufacturer: Coded by debtor no. 55403167

Factory inspection report no.: 862010379.003

**Remark:**

Factory inspection is mandatory to be performed annually. Please refer to factory inspection report for detailed information.

A handwritten signature in blue ink, appearing to read "Rogner K1".

**TÜV NORD CERT GmbH**  
Certification Body  
Consumer Products

**Description of product(s):**

Module types:	<b>PV Modules with 7" Half Cut Mono-crystalline Silicon Solar Cells:</b> 156 cells: IBEX-156MHC-EiGER-***W (***=560-605, in increment of 5) 144 cells: IBEX-144MHC-EiGER-***W (***=515-555, in increment of 5) 132 cells: IBEX-132MHC-EiGER-***W (***=475-510, in increment of 5) 120 cells: IBEX-120MHC-EiGER-***W (***=430-465, in increment of 5) 108 cells: IBEX-108MHC-EiGER-***W (***=390-415, in increment of 5)
Maximum system voltage:	1500V
Fuse rating:	25A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I or II
Design load (positive / negative):	3600Pa (positive) / 1600Pa (negative)
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (per ANSI/UL 790-2018)

**Remark:**

For detailed product information, please refer to CDF (Constructional Data Form) in Annex 1 of test report.



**TÜV NORD CERT GmbH**  
Certification Body  
Consumer Products



**Certificate  
of conformity with the following  
European Directives**

Registered No.:  
**44 799 21 406749 - 031**

**Low-Voltage Directive 2014/35/EU**

Date of application	File reference	Test report No.	Date of issue	Place of issue
2021-04-01	PVP04001/21P	492011649.001	2021-04-15	Essen

This is to certify that the following products comply to the essential requirements of the above mentioned European Directive and the following standards, taking into account the German national deviations:

**Product:** Crystalline Silicon Terrestrial Photovoltaic (PV) Modules

**Type designation:** See Annex 1

**Applicant:** **SWISS SOLAR AG**  
Bahnhofstrasse 21, CH-6300 Zug, Switzerland

**Standard(s):** EN IEC 61730-1:2018; EN IEC 61730-1:2018/AC:2018-06  
EN IEC 61730-2:2018; EN IEC 61730-2:2018/AC:2018-06

This Certificate of conformity is based on the evaluation of samples of the product. It does not imply an assessment of the production and it does not permit the use of a mark of conformity or of a safety mark of the TÜV NORD CERT GmbH. The holder of this certificate may use this Certificate together with his EC-Declaration of Conformity.



Certification Body  
Specialist Manager Consumer Products

TÜV NORD CERT GmbH  
Langemarckstrasse 20  
D-45141 Essen  
P.O.Box 10 32 61  
D-45032 Essen  
Fon: +49 (0)201 825-5120  
Fax: +49 (0)201 825-3209  
Email: prodcert@tuev-nord.de

**Description of product(s):**

Module types:

**PV Modules with 7" Half Cut Mono-crystalline Silicon Solar Cells:**

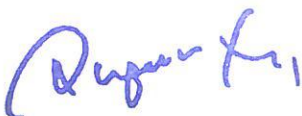
156 cells: IBEX-156MHC-EiGER-\*\*\*W (\*\*\*=560-605, in increment of 5)

144 cells: IBEX-144MHC-EiGER-\*\*\*W (\*\*\*=515-555, in increment of 5)

132 cells: IBEX-132MHC-EiGER-\*\*\*W (\*\*\*=475-510, in increment of 5)

120 cells: IBEX-120MHC-EiGER-\*\*\*W (\*\*\*=430-465, in increment of 5)

108 cells: IBEX-108MHC-EiGER-\*\*\*W (\*\*\*=390-415, in increment of 5)



**TÜV NORD CERT GmbH**  
Certification Body  
Consumer Products