

BECKER TECH

PV-Module



PM410W(108)

FRAME



Half Cut Cell Technology



Gallium-doped Technology



Less Hot Spot Shading Effects



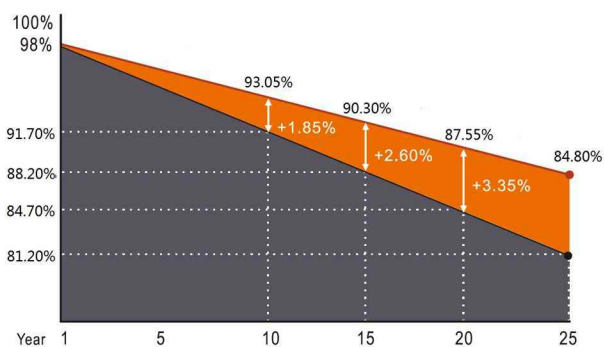
Anti-PID
Low LID
Performance



Enduring High Reliability & Performance



Linear performance Warranty



Comprehensive Certificates

- TÜV NORD
- ISO9001:2015
- ISO14001:2015
- ISO45001:2018
- IEC61215/IEC61730



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PM410W(108)

Module		PM-410W(108)	
Efficiency (%)		20.97	
Tolerance (W)		0 ~ +5	
Standard Test		STC	NOCT
Maximum Power (Pmax/W)		410	310
Open Circuit Voltage Voc(V)		37.45	35.23
Short Circuit Current Isc(A)		14.02	11.16
Maximum Power Voltage Vmp(V)		31.61	29.72
Maximum Power Current Imp(A)		13.13	10.43
Cells (mm)		MBB-182x91mm Mono Perc	
Cells Qty (Pcs)		108(6x18)	
Max System Voltage (V)		DC1500	
Open Circuit Voltage Temp (%/°C)		-0.282	
Circuit Current Temp (%/°C)		0.05	
Peak Power Temp (%/°C)		-0.348	
Operate Temp (°C)		-40 to 85	
Nominal Operating Temp (°C)		45±2	
Max Series Fuse Rating (A)		25	
Frontal Static Load (Pa)		5400	
Back Static Load (Pa)		2400	

Standard Test Conditions[STC]: irradiance 1,000 W/m²; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within±3%Tolerance of Pmp: 0-+3%. Certified in accordance with IEC61215,IEC61730-1/2.

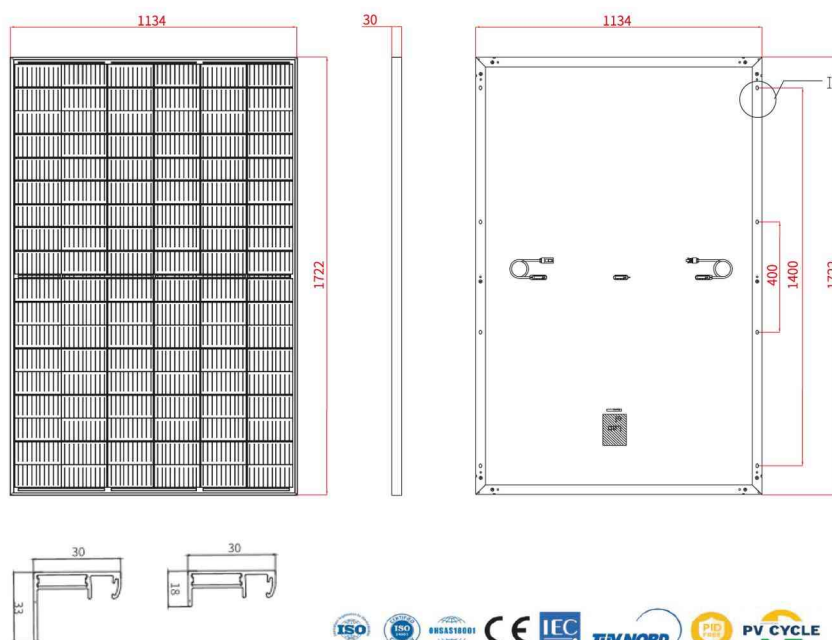
Raw material

Frame	Alloy Aluminium	Glass (mm)	3.2
Cell	6x18pcs 182x91mm Mono solar cells perc	Junction box	IP≥68, TÜV & UL
Diode Qty	3	Connector	4mm ² , MC4 or EVO 2
Cable (mm)	300		

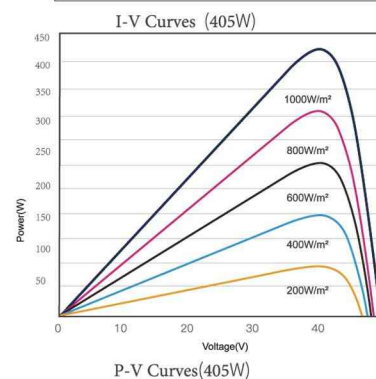
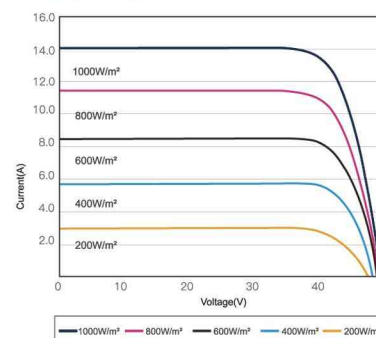
Package

Module size (mm)	1722x1134x30	Weight (kg)	21.5
Loading	936 PCS/40HQ	Package	36PCS/PLT

Engineering Drawings



IV CURVES





CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

Becker Tech GmbH
Soederbergstr. 14, 84513 Toeing am Inn
Germany

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

Description of product (details see Annex 2):

Crystalline Silicon Terrestrial Photovoltaic (PV) Modules



Valid from: 2023-05-17
Valid until: 2026-10-27

Certification program: P12-VA-01 Rev. 17 09.20
Certification fundamental(s): 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 23 406749 - 126
Manufacturer: see Annex 1
Test Report No.: 492012415.001
File No.: PVP04126/23P

TÜV NORD CERT GmbH
Certification Body
Consumer Products



Essen, 2023-05-17

Please also pay attention to the information stated overleaf.

TÜV NORD CERT GmbH Am TÜV 1 D-45307 Essen www.tuev-nord-cert.de
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Anlage 2 zum Zertifikat Nr.: / Annex 2 to Certificate No.: 44 780 23 406749 - 126

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Aktenzeichen: / File reference: PVP04126/23P

2023-05-17

Description of product(s):

Module types: **PV Modules with Half-cut 166mm Mono-crystalline Silicon Solar Cells:**
144 cells: PM6-xxxW(144) (xxx=440-470, in steps of 5)
120 cells: PM6-xxxW(120) (xxx=365-390, in steps of 5)
72 cells: PM6-xxxW(72) (xxx=220-235, in steps of 5)

Maximum system voltage: 1500V
Fuse rating: 20A
Electrical protection class: Class II
Pollution degree: 1
Material group: I
Design load (positive / negative): 3600Pa / 1600Pa or 2400Pa / 1600Pa
Safety factors: 1.5
Fire safety class: Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Module types: **PV Modules with Half-cut 182mm Mono-crystalline Silicon Solar Cells:**
144 cells: PM-xxxW(144) (xxx=520-550, in steps of 5)
132 cells: PM-xxxW(132) (xxx=475-505, in steps of 5)
120 cells: PM-xxxW(120) (xxx=435-455, in steps of 5)
108 cells: PM-xxxW(108) (xxx=390-410, in steps of 5)
72 cells: PM-xxxW(72) (xxx=260-275, in steps of 5)

Maximum system voltage: 1500V
Fuse rating: 25A
Electrical protection class: Class II
Pollution degree: 1
Material group: I
Design load (positive / negative): 3600Pa / 1600Pa or 2400Pa / 1600Pa
Safety factors: 1.5
Fire safety class: Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

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Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 23 406749 - 126

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Aktenzeichen: / File reference: PVP04126/23P

2023-05-17

Manufacturer:

Manufacturer: **Coded by debtor no. 55519477**
Factory inspection report no.: 862010573.002

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

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Anlage 2 zum Zertifikat Nr.: / Annex 2 to Certificate No.: 44 780 23 406749 - 126

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Aktenzeichen: / File reference: PVP04126/23P

2023-05-17

Module types: **PV Modules with Half-cut 210mm Mono-crystalline Silicon Solar Cells:**
132 cells: PM12-xxxW(132) (xxx=650-670, in steps of 5)
120 cells: PM12-xxxW(120) (xxx=590-610, in steps of 5)
110 cells: PM12-xxxW(110) (xxx=540-555, in steps of 5)
72 cells: PM12-xxxW(72) (xxx=355-365, in steps of 5)

Maximum system voltage: 1500V
Fuse rating: 30A
Electrical protection class: Class II
Pollution degree: 1
Material group: I
Design load (positive / negative): 2400Pa / 1600Pa
Safety factors: 1.5
Fire safety class: Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

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

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