

# BECKER TECH

## PV-Module



### PM410W(108)

### FRAME



Half Cut Cell Technology



Gallium-doped Technology



Less Hot Spot Shading Effects



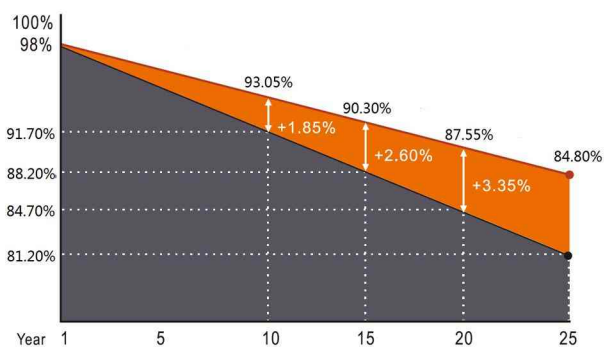
Anti-PID  
Low LID  
Performance



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/m<sup>2</sup>; 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.

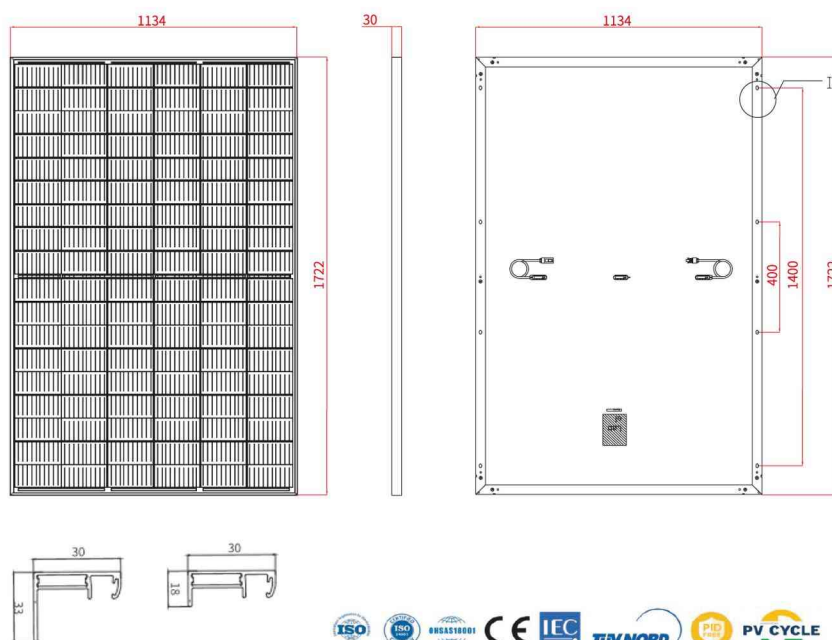
### Raw material

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 <sup>2</sup> , MC4 or EVO 2
Cable (mm)	300		

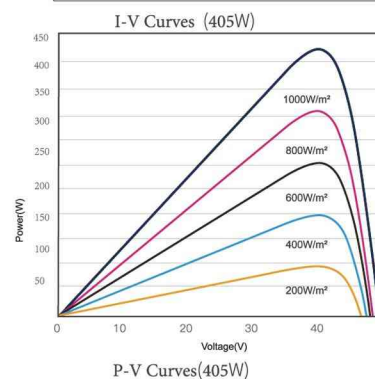
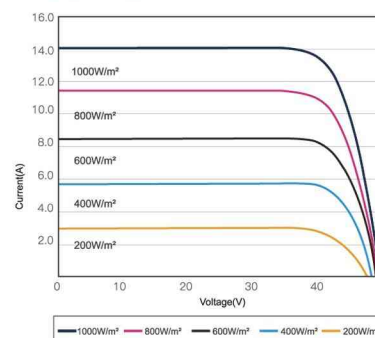
### Package

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 Töging 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.

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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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