

# CERTIFICATE

**TÜV NORD CERT GmbH**  
herewith declares that

**OmnisPower OÜ**  
Harju maakond, Tallinn, Kesklinna linnaosa  
Pärnu mnt 21/1, 10141

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: 2023-06-27  
Valid until: 2027-07-03

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 - 175
Manufacturer:	see Annex 1
Test Report No.:	492012505.001
File No.:	PVP05100/23P-02



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Essen, 2023-06-27

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 23 406749 - 175

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Aktenzeichen: / File reference: PVP05100/23P-02

2023-06-27

**Manufacturer:**

Manufacturer 1: **Coded by debtor no. 55560544**

Factory inspection report no.: 862010664.001

Manufacturer 2: **Coded by debtor no. 0055578529**

Factory inspection report no.: 862010732.001

**Remark:**

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



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**Description of product(s):**

Module types:	<b>Double Glass PV Modules with Half-cut 182mm Mono-crystalline Silicon Solar Cells:</b> 144 cells: OPxxxM72-P6-BF (xxx=530-550, in steps of 5) 132 cells: OPxxxM66-P6-BF (xxx=485-505, in steps of 5) 120 cells: OPxxxM60-P6-BF (xxx=440-455, in steps of 5) 108 cells: OPxxxM54-P6-BF (xxx=400-410, in steps of 5) Remark: xxx indicates output power from the front side only
Maximum system voltage:	1500V
Fuse rating:	30A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Bifaciality coefficient ( $\varphi$ ):	70% $\pm$ 5%

Module types:	<b>Double Glass PV Modules with Half-cut 210mm Mono-crystalline Silicon Solar Cells:</b> 132 cells: OPxxxM66-P5-BF (xxx=650-670, in steps of 5) 120 cells: OPxxxM60-P5-BF (xxx=590-610, in steps of 5) 108 cells: OPxxxM54-P5-BF (xxx=530-545, in steps of 5) 96 cells: OPxxxM48-P5-BF (xxx=475-490, in steps of 5) 84 cells: OPxxxM42-P5-BF (xxx=415-425, in steps of 5) Remark: xxx indicates output power from the front side only
Maximum system voltage:	1500V
Fuse rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Bifaciality coefficient ( $\varphi$ ):	70% $\pm$ 5%



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Module types:	<b>Double Glass PV Modules with Half-cut 210mm TOPCon Monocrystalline Silicon Solar Cells:</b> 132 cells: OPxxxM66-NT6-BF (xxx=660-690, in steps of 5) 120 cells: OPxxxM60-NT6-BF (xxx=600-625, in steps of 5) Remark: xxx indicates output power from the front side only
Maximum system voltage:	1500V
Fuse rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Bifaciality coefficient ( $\varphi$ ):	70% $\pm$ 5%

Module types:	<b>Double Glass PV Modules with Half-cut 182mm TOPCon Monocrystalline Silicon Solar Cells:</b> 156 cells: OPxxxM78-NT5-BF (xxx=580-615, in steps of 5) 144 cells: OPxxxM72-NT5-BF (xxx=535-590, in steps of 5) 132 cells: OPxxxM66-NT5-BF (xxx=490-540, in steps of 5) 120 cells: OPxxxM60-NT5-BF (xxx=445-490, in steps of 5) 108 cells: OPxxxM54-NT5-BF (xxx=400-440, in steps of 5) Remark: xxx indicates output power from the front side only
Maximum system voltage:	1500V
Fuse rating:	30A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Bifaciality coefficient ( $\varphi$ ):	70% $\pm$ 5%



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Module types:	OP530M72-P6-BF	OP535M72-P6-BF	OP540M72-P6-BF	OP545M72-P6-BF
Rated Pmpp at STC (Front side only):	530W	535W	540W	545W
Rated Pmpp power with albedo 13.5%:	580W	585W	590W	595W

Module types:	OP5505M72-P6-BF	OP485M66-P6-BF	OP490M66-P6-BF	OP495M66-P6-BF
Rated Pmpp at STC (Front side only):	550W	485W	490W	495W
Rated Pmpp power with albedo 13.5%:	600W	530W	535W	540W

Module types:	OP500M66-P6-BF	OP505M66-P6-BF	OP440M60-P6-BF	OP445M60-P6-BF
Rated Pmpp at STC (Front side only):	500W	505W	440W	445W
Rated Pmpp power with albedo 13.5%:	545W	550W	480W	485W

Module types:	OP450M60-P6-BF	OP455M60-P6-BF	OP400M54-P6-BF	OP405M54-P6-BF
Rated Pmpp at STC (Front side only):	450W	455W	400W	405W
Rated Pmpp power with albedo 13.5%:	490W	495W	435W	440W

Module types:	OP410M54-P6-BF	OP650M66-P5-BF	OP655M66-P5-BF	OP660M66-P5-BF
Rated Pmpp at STC (Front side only):	410W	650W	655W	660W
Rated Pmpp power with albedo 13.5%:	445W	710W	715W	720W



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Module types:	OP665M66-P5-BF	OP670M66-P5-BF	OP590M60-P5-BF	OP595M60-P5-BF
Rated Pmpp at STC (Front side only):	665W	670W	590W	595W
Rated Pmpp power with albedo 13.5%:	725W	730W	645W	650W

Module types:	OP600M60-P5-BF	OP605M60-P5-BF	OP610M60-P5-BF	OP530M54-P5-BF
Rated Pmpp at STC (Front side only):	600W	605W	610W	530W
Rated Pmpp power with albedo 13.5%:	655W	660W	665W	580W

Module types:	OP535M54-P5-BF	OP540M54-P5-BF	OP545M54-P5-BF	OP475M48-P5-BF
Rated Pmpp at STC (Front side only):	535W	540W	545W	475W
Rated Pmpp power with albedo 13.5%:	585W	590W	595W	520W

Module types:	OP480M48-P5-BF	OP485M48-P5-BF	OP490M48-P5-BF	OP415M42-P5-BF
Rated Pmpp at STC (Front side only):	480W	485W	490W	415W
Rated Pmpp power with albedo 13.5%:	525W	530W	535W	455W

Module types:	OP420M42-P5-BF	OP425M42-P5-BF
Rated Pmpp at STC (Front side only):	420W	425W
Rated Pmpp power with albedo 13.5%:	460W	465W



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Module types:	OP660M66-NT6-BF	OP665M66-NT6-BF	OP670M66-NT6-BF	OP675M66-NT6-BF
Rated Pmpp at STC (Front side only):	660W	665W	670W	675W
Rated Pmpp power with albedo 13.5%:	735W	740W	745W	750W

Module types:	OP680M66-NT6-BF	OP685M66-NT6-BF	OP690M66-NT6-BF	OP600M60-NT6-BF
Rated Pmpp at STC (Front side only):	680W	685W	690W	600W
Rated Pmpp power with albedo 13.5%:	755W	760W	765W	670W

Module types:	OP605M60-NT6-BF	OP610M60-NT6-BF	OP615M60-NT6-BF	OP620M60-NT6-BF
Rated Pmpp at STC (Front side only):	605W	610W	615W	620W
Rated Pmpp power with albedo 13.5%:	675W	680W	685W	690W

Module types:	OP625M60-NT6-BF	OP580M78-NT5-BF	OP585M78-NT5-BF	OP590M78-NT5-BF
Rated Pmpp at STC (Front side only):	625W	580	585	590
Rated Pmpp power with albedo 13.5%:	695W	645	650	655

Module types:	OP595M78-NT5-BF	OP600M78-NT5-BF	OP605M78-NT5-BF	OP610M78-NT5-BF
Rated Pmpp at STC (Front side only):	595	600	605	610
Rated Pmpp power with albedo 13.5%:	660	665	670	675



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Module types:	OP615M78-NT5-BF	OP535M72-NT5-BF	OP540M72-NT5-BF	OP545M72-NT5-BF
Rated Pmpp at STC (Front side only):	615	535	540	545
Rated Pmpp power with albedo 13.5%:	680	595	600	605

Module types:	OP550M72-NT5-BF	OP555M72-NT5-BF	OP560M72-NT5-BF	OP565M72-NT5-BF
Rated Pmpp at STC (Front side only):	550	555	560	565
Rated Pmpp power with albedo 13.5%:	610	615	620	625

Module types:	OP570M72-NT5-BF	OP575M72-NT5-BF	OP580M72-NT5-BF	OP585M72-NT5-BF
Rated Pmpp at STC (Front side only):	570	575	580	585
Rated Pmpp power with albedo 13.5%:	630	635	640	645

Module types:	OP590M72-NT5-BF	OP490M66-NT5-BF	OP495M66-NT5-BF	OP500M66-NT5-BF
Rated Pmpp at STC (Front side only):	590	490	495	500
Rated Pmpp power with albedo 13.5%:	650	545	550	555

Module types:	OP505M66-NT5-BF	OP510M66-NT5-BF	OP515M66-NT5-BF	OP520M66-NT5-BF
Rated Pmpp at STC (Front side only):	505	510	515	520
Rated Pmpp power with albedo 13.5%:	560	565	570	575



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Module types:	OP525M66-NT5-BF	OP530M66-NT5-BF	OP535M66-NT5-BF	OP540M66-NT5-BF
Rated Pmpp at STC (Front side only):	525	530	535	540
Rated Pmpp power with albedo 13.5%:	580	585	590	595

Module types:	OP445M60-NT5-BF	OP450M60-NT5-BF	OP455M60-NT5-BF	OP460M60-NT5-BF
Rated Pmpp at STC (Front side only):	445	450	455	460
Rated Pmpp power with albedo 13.5%:	495	500	505	510

Module types:	OP465M60-NT5-BF	OP470M60-NT5-BF	OP475M60-NT5-BF	OP480M60-NT5-BF
Rated Pmpp at STC (Front side only):	465	470	475	480
Rated Pmpp power with albedo 13.5%:	515	520	525	530

Module types:	OP485M60-NT5-BF	OP490M60-NT5-BF	OP400M54-NT5-BF	OP405M54-NT5-BF
Rated Pmpp at STC (Front side only):	485	490	400	405
Rated Pmpp power with albedo 13.5%:	535	540	445	450

Module types:	OP410M54-NT5-BF	OP415M54-NT5-BF	OP420M54-NT5-BF	OP425M54-NT5-BF
Rated Pmpp at STC (Front side only):	410	415	420	425
Rated Pmpp power with albedo 13.5%:	455	460	465	470



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Module types:	OP430M54-NT5-BF	OP435M54-NT5-BF	OP440M54-NT5-BF
Rated Pmpp at STC (Front side only):	430	435	440
Rated Pmpp power with albedo 13.5%:	475	480	485

Remark:

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

Bifaciality coefficient ( $\phi$ ) = ( $I_{SCrear} / I_{SCfront}$ ) or ( $P_{mpprear} / P_{mppfront}$ ), whichever is smaller.

The tolerance of bifaciality coefficient ( $\phi$ ) is claimed by client.

Rated Pmpp power with albedo: comprehensive power of both sides, taken  $\phi$  and albedo into consideration.

The albedo is claimed by client.



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