

PVsyst - Simulation report

Grid-Connected System

Project: New Project

Variant: New simulation variant

No 3D scene defined, no shadings

System power: 25.20 kWp

Otjiwarongo - Namibia



Project: New Project

Variant: New simulation variant

PVsyst V7.2.11

VC0, Simulation date:

12/11/22 19:06

with v7.2.11

Project summary

Geographical Site

Otjiwarongo

Namibia

Situation

Latitude -20.48 °S

Longitude 16.63 °E

Altitude 1460 m

Time zone UTC+1

Project settings

Albedo 0.20

Meteo data

Otjiwarongo

Meteonorm 8.0 (2012-2019), Sat=100% - Synthetic

System summary

Grid-Connected System

No 3D scene defined, no shadings

PV Field Orientation

Fixed plane

Tilt/Azimuth 21 / 0 °

Near Shadings

No Shadings

User's needs

Unlimited load (grid)

System information

PV Array

Nb. of modules

70 units

Pnom total

25.20 kWp

Inverters

Nb. of units

1 unit

Pnom total

30.0 kWac

Pnom ratio

0.840

Results summary

Produced Energy	48.54 MWh/year	Specific production	1926 kWh/kWp/year	Perf. Ratio PR	77.84 %
-----------------	----------------	---------------------	-------------------	----------------	---------

Table of contents

Project and results summary	2
General parameters, PV Array Characteristics, System losses	3
Main results	4
Loss diagram	5
Special graphs	6



Project: New Project

Variant: New simulation variant

PVsyst V7.2.11

VC0, Simulation date:

12/11/22 19:06

with v7.2.11

General parameters

Grid-Connected System

No 3D scene defined, no shadings

PV Field Orientation

Orientation

Fixed plane

Tilt/Azimuth 21 / 0 °

Sheds configuration

No 3D scene defined

Models used

Transposition Perez

Diffuse Perez, Meteonorm

Circumsolar separate

Horizon

Free Horizon

Near Shadings

No Shadings

User's needs

Unlimited load (grid)

PV Array Characteristics

PV module

Manufacturer

Talesun Solar (suzhou)

Model

TP6H72M-360(H)

(Original PVsyst database)

Unit Nom. Power

360 Wp

Number of PV modules

70 units

Nominal (STC)

25.20 kWp

Modules

5 Strings x 14 In series

At operating cond. (50°C)

Pmpp

22.75 kWp

U mpp

494 V

I mpp

46 A

Total PV power

Nominal (STC)

25 kWp

Total

70 modules

Module area

139 m²

Cell area

246 m²

Inverter

Manufacturer

Generic

Model

30 kWac inverter

(Original PVsyst database)

Unit Nom. Power

30.0 kWac

Number of inverters

1 unit

Total power

30.0 kWac

Operating voltage

450-700 V

Pnom ratio (DC:AC)

0.84

Total inverter power

Total power

30 kWac

Number of inverters

1 unit

Pnom ratio

0.84

Array losses

Thermal Loss factor

Module temperature according to irradiance

Uc (const) 20.0 W/m²K

Uv (wind) 0.0 W/m²K/m/s

DC wiring losses

Global array res.

180 mΩ

Loss Fraction

1.5 % at STC

Module Quality Loss

Loss Fraction

-0.8 %

Module mismatch losses

Loss Fraction 2.0 % at MPP

Strings Mismatch loss

Loss Fraction

0.1 %

IAM loss factor

Incidence effect (IAM): Fresnel AR coating, n(glass)=1.526, n(AR)=1.290

0°	30°	50°	60°	70°	75°	80°	85°	90°
1.000	0.999	0.987	0.962	0.892	0.816	0.681	0.440	0.000



Project: New Project

Variant: New simulation variant

PVsyst V7.2.11

VC0, Simulation date:

12/11/22 19:06

with v7.2.11

Main results

System Production

Produced Energy

48.54 MWh/year

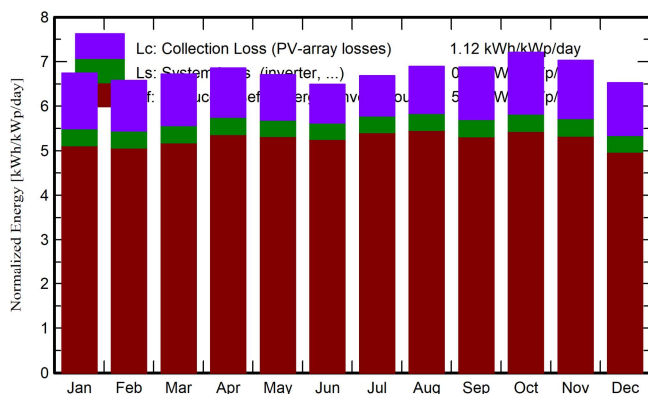
Specific production

1926 kWh/kWp/year

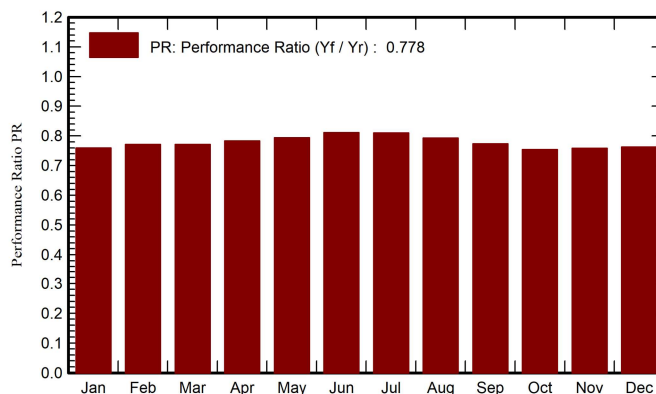
Performance Ratio PR

77.84 %

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

	GlobHor kWh/m ²	DiffHor kWh/m ²	T_Amb °C	GlobInc kWh/m ²	GlobEff kWh/m ²	EArray MWh	E_Grid MWh	PR ratio
January	230.6	69.37	24.35	209.1	203.1	4.300	4.002	0.760
February	190.1	66.63	23.36	184.1	179.3	3.845	3.580	0.772
March	198.5	63.88	22.62	208.4	203.8	4.353	4.053	0.772
April	177.1	43.70	20.35	205.8	202.6	4.352	4.063	0.784
May	163.6	30.87	18.22	207.9	204.6	4.451	4.161	0.794
June	146.0	27.77	14.77	194.8	191.6	4.255	3.982	0.811
July	159.1	30.42	14.55	207.3	204.0	4.522	4.232	0.810
August	176.9	36.07	18.18	213.7	210.5	4.568	4.270	0.793
September	188.4	51.47	21.98	206.4	202.6	4.314	4.024	0.774
October	223.8	59.85	25.13	223.5	218.9	4.558	4.251	0.755
November	228.3	65.04	24.67	211.0	205.7	4.330	4.032	0.758
December	225.9	77.91	24.98	202.2	196.5	4.179	3.886	0.762
Year	2308.4	622.97	21.09	2474.2	2423.2	52.026	48.536	0.778

Legends

GlobHor Global horizontal irradiation

DiffHor Horizontal diffuse irradiation

T_Amb Ambient Temperature

GlobInc Global incident in coll. plane

GlobEff Effective Global, corr. for IAM and shadings

EArray Effective energy at the output of the array

E_Grid Energy injected into grid

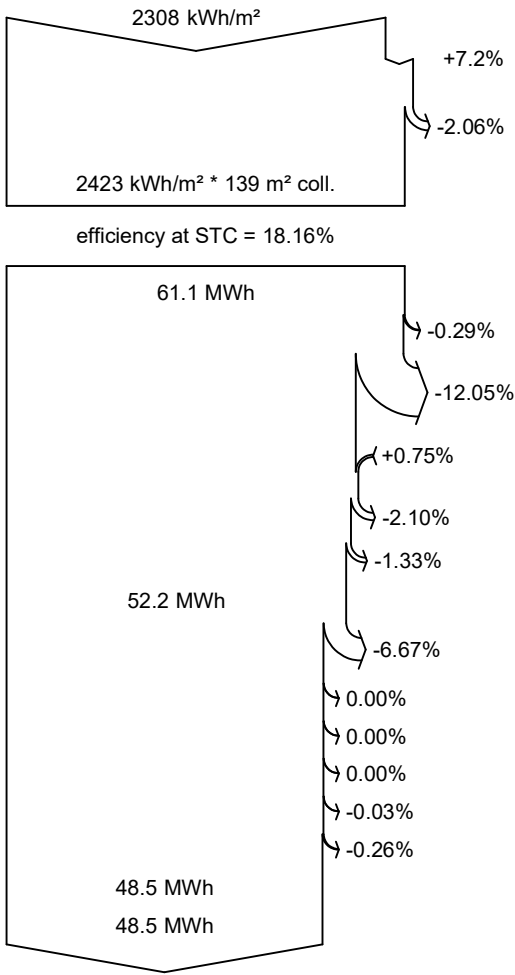
PR Performance Ratio



PVsyst V7.2.11

VC0, Simulation date:
12/11/22 19:06
with v7.2.11

Loss diagram



Global horizontal irradiation

Global incident in coll. plane

IAM factor on global

Effective irradiation on collectors

PV conversion

Array nominal energy (at STC effic.)

PV loss due to irradiance level

PV loss due to temperature

Module quality loss

Mismatch loss, modules and strings

Ohmic wiring loss

Array virtual energy at MPP

Inverter Loss during operation (efficiency)

Inverter Loss over nominal inv. power

Inverter Loss due to max. input current

Inverter Loss over nominal inv. voltage

Inverter Loss due to power threshold

Inverter Loss due to voltage threshold

Available Energy at Inverter Output

Energy injected into grid

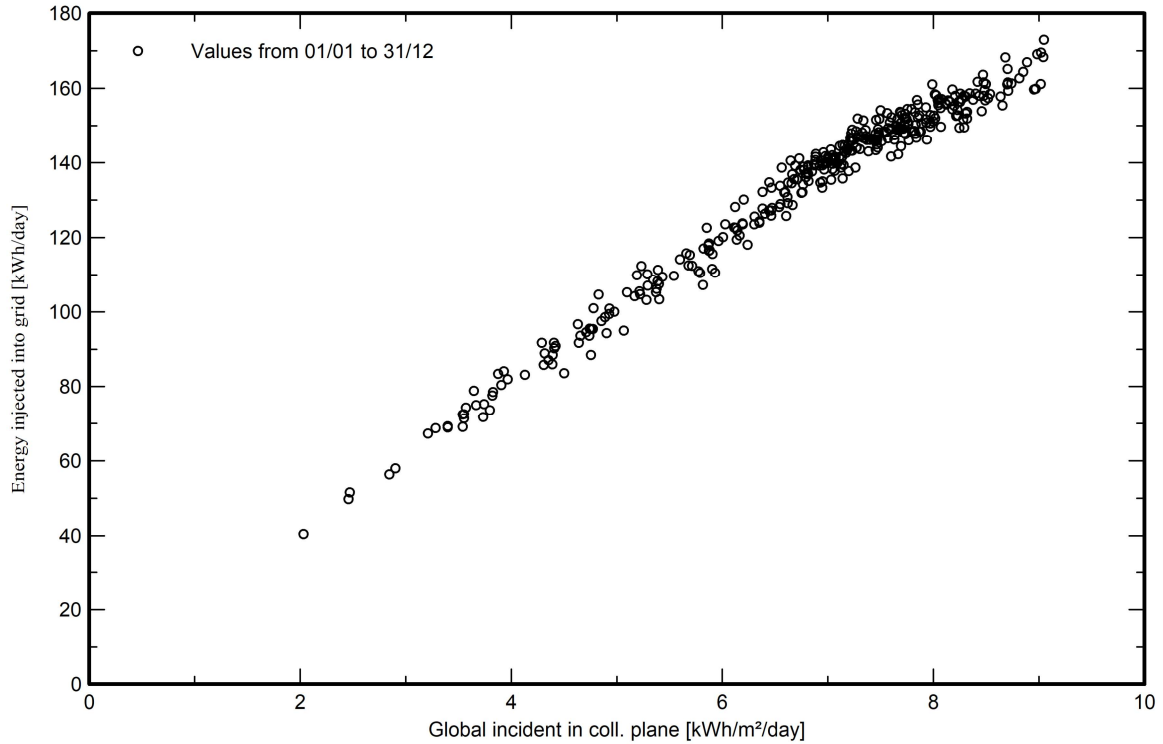


PVsyst V7.2.11

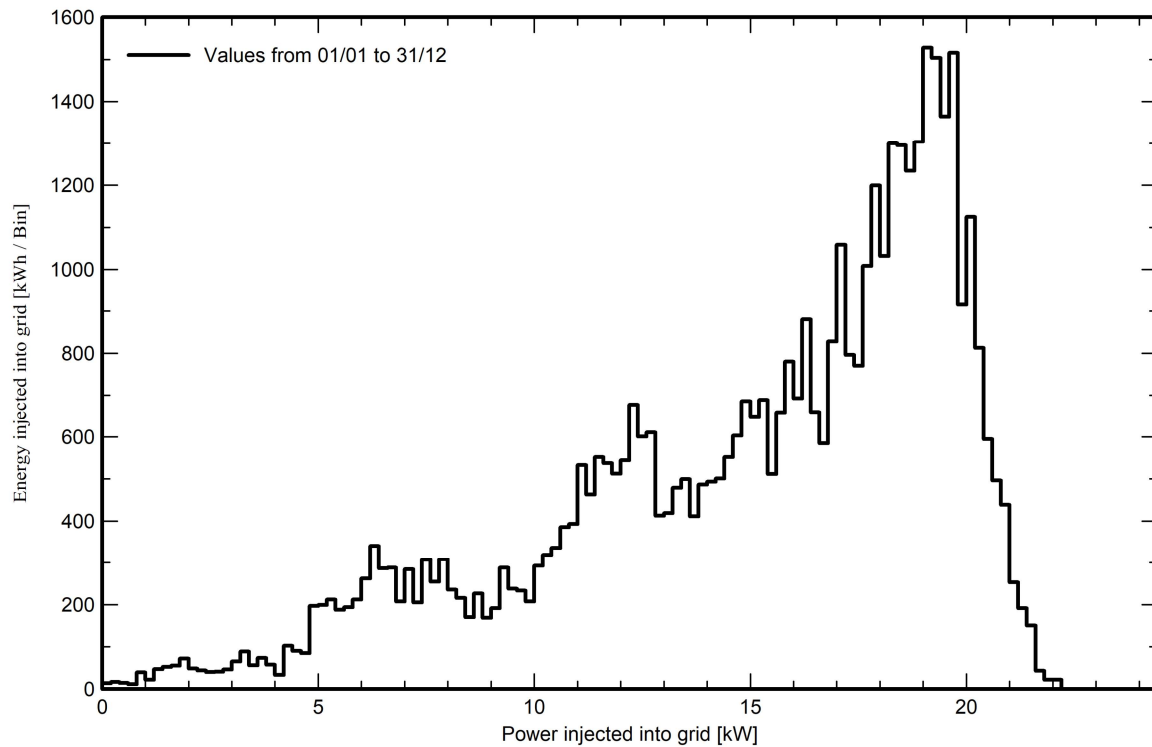
VC0, Simulation date:
12/11/22 19:06
with v7.2.11

Special graphs

Daily Input/Output diagram



System Output Power Distribution



(N) 30kWac INVERTER

(E) CONTROL ROOM

(E) PROPERTY LINE

ARRAY 4 -
(N) 14 TP6H76M-360(H) MODULES
TILT: 21.3
AZIMUTH: 0

ARRAY 2 -
(N) 14 TP6H76M-360(H) MODULES
TILT: 21.3
AZIMUTH: 0

ARRAY 5 -
(N) 14 TP6H76M-360(H) MODULES
TILT: 21.3
AZIMUTH: 0

ARRAY 3 -
(N) 14 TP6H76M-360(H) MODULES
TILT: 21.3
AZIMUTH: 0

ARRAY 1 -
(N) 14 TP6H76M-360(H) MODULES
TILT: 21.3
AZIMUTH: 0

General Notes	
	INVERTER
	MAIN DISTRIBUTION BOARD
	0.914m FIRE CODE PATHWAY

Revision/Issue	Date

JURGEN_T_VIAKONDO
JVIAKONDO@GMAIL.COM

CLIENT_NAME
WINDHOEK
NAMIBIA

Project	Sheet
GRID_CONNECTED	SITE_PLAN
09.11.2022	SCALE

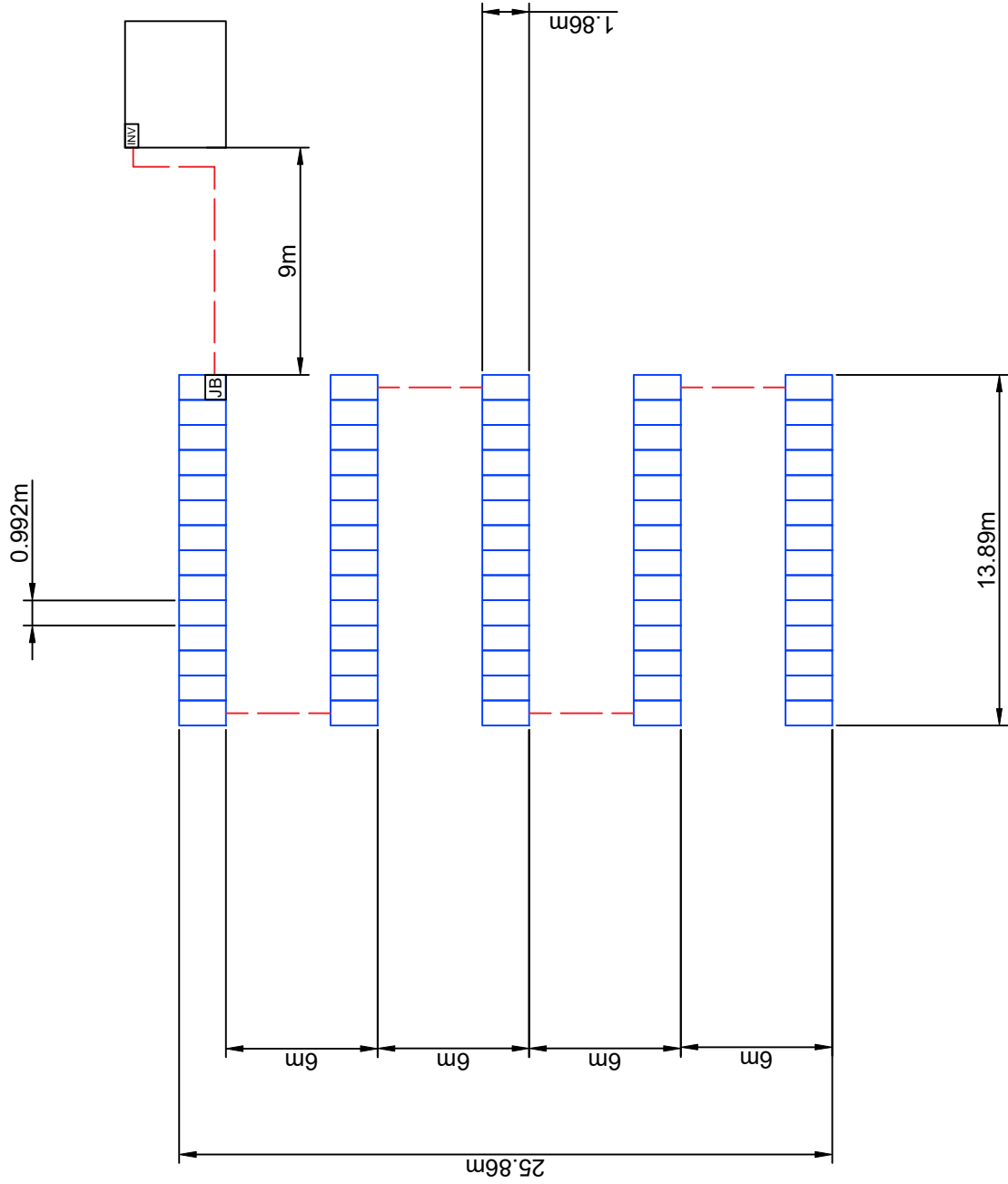
General Notes	
	INVERTER
	MAIN DISTRIBUTION BOARD
	0.9744m FIRE CODE PATHWAY
	JUNCTION BOX
	CONDUCTOR

No.	Revision/Issue	Date

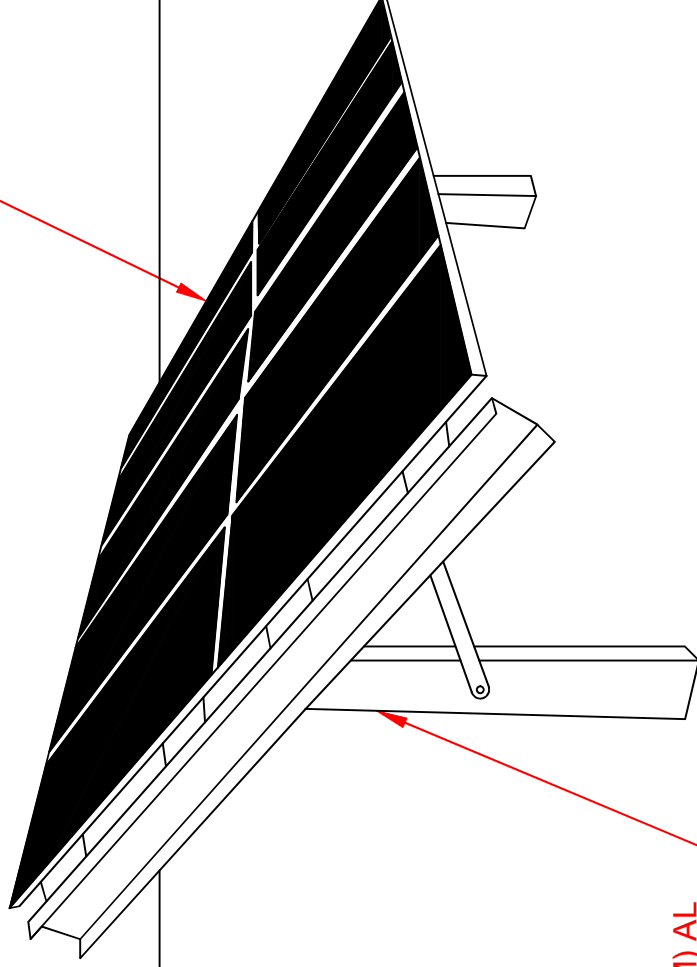
DESIGNER
 JURGEN_T_VIAKONDO
 J.VIAKONDO@GMAIL.COM
 0813941459

CLIENT
 CLIENT_NAME
 WINDHOEK
 NAMIBIA

PROJECT	GRID_CONNECTED	Sheet
DATE	09.11.2022	ROOF_PLAN
SCALE		



(N)14 TP6H76M-360(H) MODULE



Ground

The Power peak^(TM) AL
-PV solar Mounting system

Revision/Issue	Date

ISSUED BY
JURGEN_T_VIAKONDO
JVIAKONDO@GMAIL.COM
0813941459

CLIENT NAME
WINDHOEK
NAMIBIA

GRID_CONNECTED	DATE
09.11.2022	

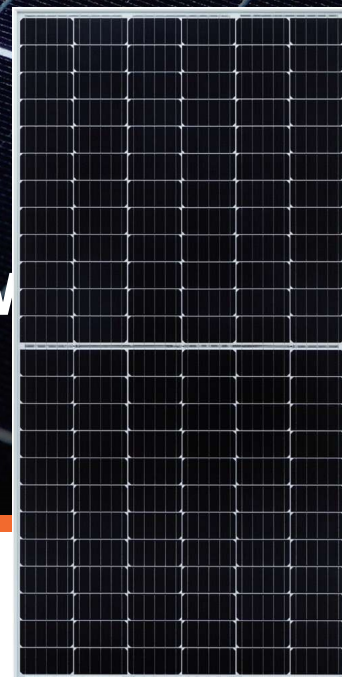


[illegible]

BISTAR

TP6H72M - 360 / 365 / 370 / 375 / 380W

High Efficiency Half-Cell Monocrystalline Solar Module
72-Cell Series



KEY FEATURES



Half-cut cell technology

New circuit design, lower internal current, lower Rs loss



Maximize limited space

More internal reflection, maximum power output 380W



Significantly lower the risk of hot spot

Special circuit design with much lower hot spot temperature



Lower LCoE

1% more power generation, lower LCoE



Excellent Anti-PID performance

2 times of industry standard Anti-PID test by TUV Rheinland



Highly reliable due to stringent quality control

In-house testing goes well beyond certification requirements



Certified to withstand the most challenging environmental conditions

2400 Pa wind load · 5400 Pa snow load · 25 mm hail stones at 82 km/h



IP68 junction box

The highest waterproof level

ABOUT TALESUN SOLAR

TALESUN Solar is one of the world's largest integrated clean energy providers with 4 GW cell and 5 GW module production capacity globally. Its standard and high-efficiency product offerings are among the most powerful and cost-effective in the industry. Talesun Solar is committed to provide customers with customized; systematized and trustworthy turnkey solutions. Till now, Talesun Solar has accumulatively shipped more than 10 GW modules globally.

SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 1703
- ISO 9001 : 2008 Quality Management System
- ISO 14001 : 2004 Environment Mangement System
- OHSAS 18001 : 2007 Occupational Health and Safety Management System



QUALITY WARRANTY

TALESUN guarantees that defects will not appear in materials and workmanship defined by IEC61215, IEC61730 or UL1703 under normal installation, use and maintenance as specified in Talesun's installation manual for 10 years from the warranty starting date.

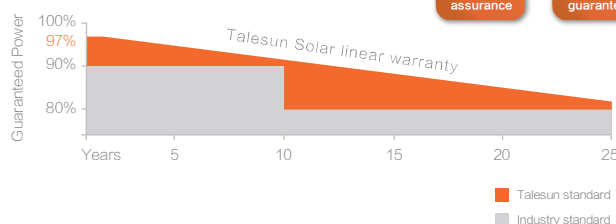


PERFORMANCE WARRANTY

Monocrystalline Solar Module

10 years
Quality assurance

25 years
Power output guarantee



TALESUN



Web: www.talesun.com
Tel: + 86 400 885 1098
Add: No.1 Talesun Road, Shajiang, Changshu, P.R. China

ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 – +3%)

Maximum Power (P _{max} /W)	360	365	370	375	380
Operating Voltage (V _{mpp} /V)	39.1	39.3	39.6	39.8	40.0
Operating Current (I _{mp} /A)	9.21	9.29	9.35	9.43	9.50
Open-Circuit Voltage (V _{oc} /V)	47.8	48.0	48.3	48.5	48.7
Short-Circuit Current (I _{sc} /A)	9.70	9.77	9.83	9.89	9.97
Module Efficiency η_m (%)	18.5	18.8	19.0	19.3	19.5

Performance at NOCT

Maximum Power (P _{max} /W)	266	270	274	278	281
Operating Voltage (V _{mpp} /V)	36.2	36.4	36.7	36.9	37.1
Operating Current (I _{mp} /A)	7.36	7.42	7.47	7.52	7.58
Open-Circuit Voltage (V _{oc} /V)	44.2	44.4	44.7	44.8	45.0
Short-Circuit Current (I _{sc} /A)	7.84	7.89	7.94	7.99	8.05

STC: Irradiance 1000W/m², Cell Temperature 25° C, Air Mass AM1.5 NOCT: Irradiance at 800W/m², Ambient Temperature 20° C, Wind Speed 1m/s

MECHANICAL SPECIFICATION

Cell Type	Half-Cell Mono
Cell Dimensions	156.75*156.75mm(6inch)
Cell Arrangement	72(6*12)
Weight	23kg(50.7lbs)
Module Dimensions	2000*992*40mm(78.74*39.06*1.57inch)
Cable Length	300mm(11.81inch)
Cable Cross Section Size	4mm ² (0.006sq.in)
Front Glass	3.2mm High Transmission, Tempered Glass
No.of Bypass Diodes	3/6
Packing Configuration (1)	27pcs/Pallet, 594pcs/40hq
Packing Configuration (2)	27pcs+4pcs/Pallet, 638pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

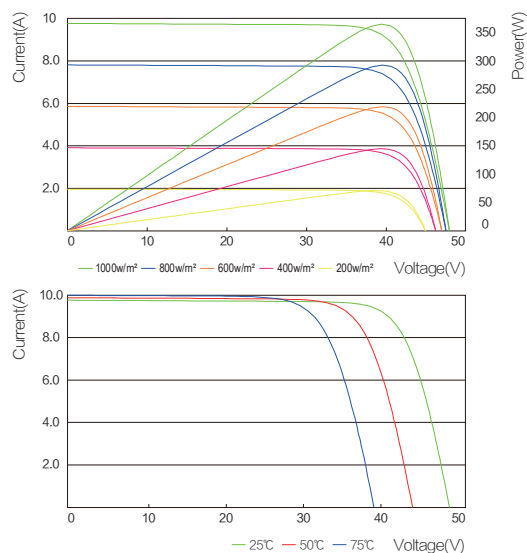
OPERATING CONDITIONS

Maximum System Voltage	1000V/DC(IEC)/1500V/DC(IEC)
Operating Temp.	-40°C +85°C
Maximum Series Fuse	15A
Static Loading	5400Pa
Conductivity at Ground	≤ 0.1Ω
Safety Class	II
Resistance	≥ 100MΩ
Connector	MC4 Compatible

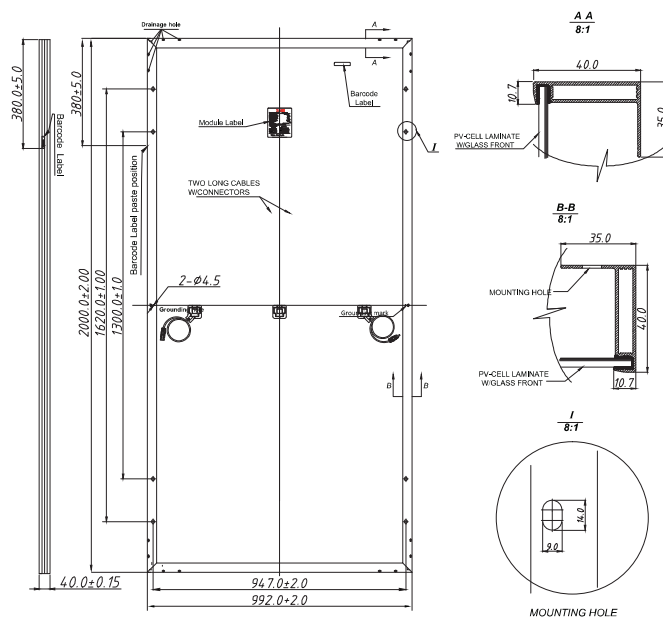
TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.39%/°C
Temperature Coefficient V _{oc}	-0.30%/°C
Temperature Coefficient I _{sc}	+0.05%/°C
NOCT	45 ± 2°C

I-V CURVE



TECHNICAL DRAWINGS





Solar inverter

PVS-20/30/33-TL

The PVS-20/30/33-TL is the new FIMER three-phase string inverter solution, ideal for the optimization of installation and operational costs in commercial and industrial PV plants.

From 20 to 33 kW

This new PVS string inverter family, with power ratings of up to 33 kW, has been designed with the objective to maximize the ROI in commercial and industrial applications such as rooftop plants, carports and trackers.

Ease of installation and maintenance

The compact design of the product allows savings on installation costs. The installation is quick and easy, without the need to open the front cover.

Moreover, being fuse-free, this inverter guarantees further savings on maintenance costs and time, reducing on site interventions to a minimum.

Maximum flexibility and integration

The input voltage range and all DC-side specs as a whole allow for the greatest plant design flexibility within both new and existing installations. This new inverter family guarantees maximum integration with the latest PV technologies, including bifacial modules.

Advanced communication

Fast commissioning thanks to the Solar Inverters installer app which enable a quick multi-inverter installation, saving up to 70% commissioning time.

The single string current monitoring allows to keep the status of the PV generator under control and to detect potential faults in real time.

The built-in FIMER Export Limitation solution allows to comply with any power export constraints established by utilities, without any additional devices to be installed.

Integrated PID recovery function

Inverters equipped with PID (Potential Induced Degradation) recovery function are able to restore the optimal conditions of the PV module in order to prevent performance losses which could be caused by the PID during standard operation. Such functionality allows to maintain the highest level of performance and to maximize the working life of the plant, hence, optimizing the return on investment.

Integrated Arc Fault Circuit Interrupter

The Integrated Arc Fault Circuit Interrupter allows to recognize and immediately interrupt the electric arcs which may occur on the PV system. Thanks to such functionality the inverter is able to offer a reliable fire prevention mechanism wherever required for roof mounted installations.

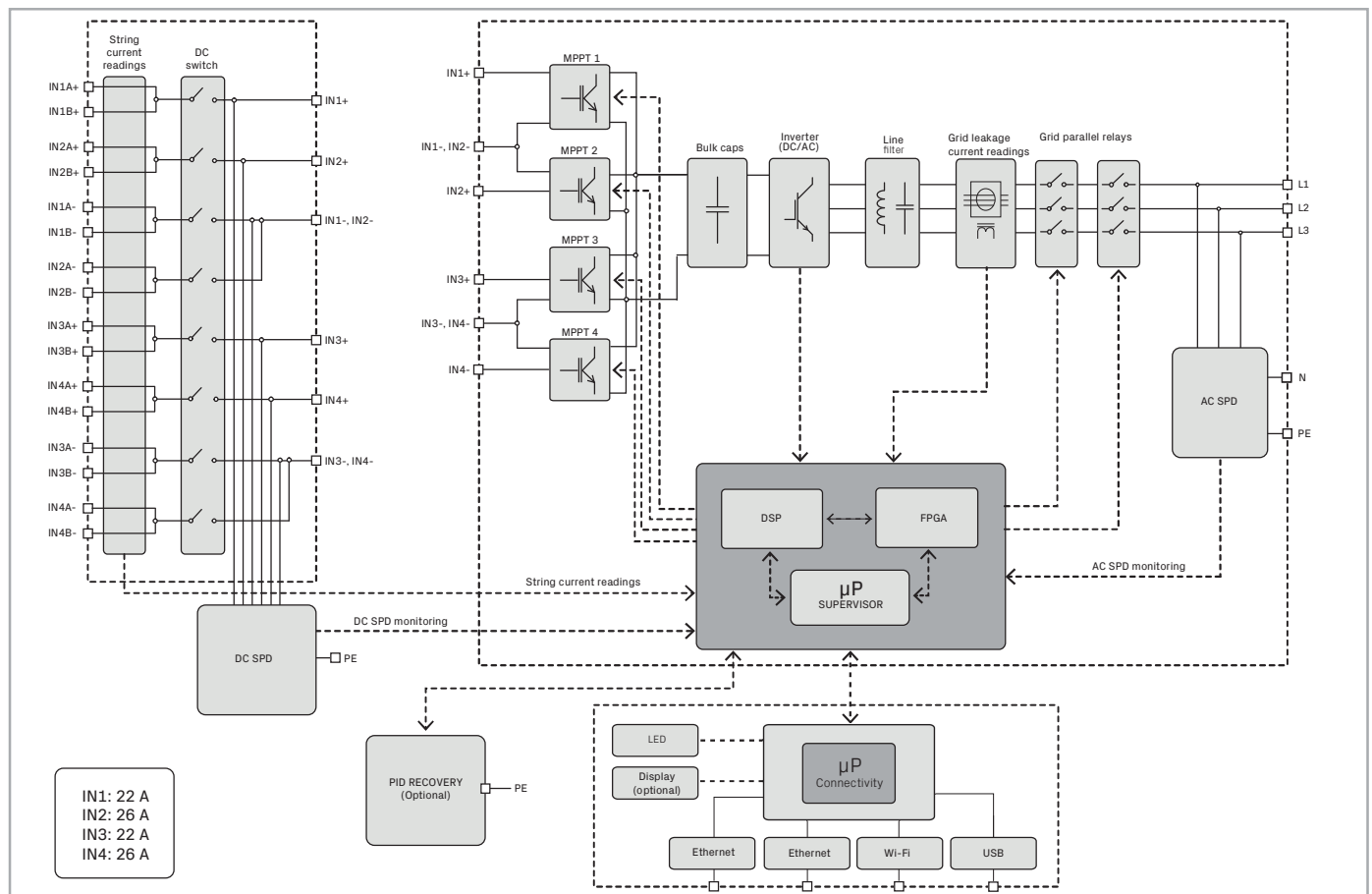
RSD compatibility

PVS-10/33 is tested for operation in PV systems equipped with Rapid Shutdown systems (RSD) and/or with I-V optimizers installed at module level (contact FIMER for a complete list of compatible systems).

Highlights

- Compact inverter suitable for vertical and horizontal installation
- Fuse-free design
- Installation on new and existing plants
- Maximum string voltage 1100 Vdc
- High-current PV module support
- PID recovery function (optional)
- Commissioning through the Solar Inverters installer app
- Integrated Export Limitation function
- Single string current monitoring
- Arc fault circuit interrupter (optional)

Block diagram PVS-20(4MPPT)-30-33-TL



Type code	PVS-20-TL (2MPPT)	PVS-20-TL (4MPPT)	PVS-30-TL	PVS-33-TL
Input side				
Absolute maximum DC input voltage (V _{max,abs})	1100V			
Start-up DC input voltage (V _{start})	250...500V (default 430V)			
Operating DC input voltage range (V _{dcmín...V_{dcmáx}})	200-1000 V			
Rated DC input voltage (V _{dcr})	620V			
Rated DC input power (P _{dcr})	20500 W	20500 W	30600 W	33700 W
Maximum photovoltaic power recommended (P _{PV, max})	30000 Wp	34000 Wp	44000 Wp	48000 Wp
Number of independent MPPT	2	4	4	4
Maximum DC input current (I _{dcmáx}) for each MPPT	2x26A	2x26A + 2x22A	2x26A + 2x22A	2x26A + 2x22A
Maximum DC input power for each MPPT (P _{MPPT,max})	2x12000W	2x12000W + 2x10000W	2x12000W + 2x10000W	2x12000W + 2x10000W
MPPT input DC voltage range (V _{MPPTmin} ... V _{MPPTmax}) at P _{acr}	460-850V			
Maximum input short circuit current for each MPPT	40A (1)			
Number of DC inputs pairs for each MPPT	2			
DC connection type	PV quick fit connector			
Input protection				
Reverse polarity protection	Yes			
Input over voltage protection for each MPPT	SPD Type II / Type I-II (optional)			
Isolation control	Yes, according local regulation			
Output side				
AC grid connection type	Three-phase (3W+PE or 4W+PE)			
Earthing system	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT and IT (2)
Rated AC power (P _{acr} @cosφ=1)	20000 W	20000 W	30000 W	33000 W
Maximum AC output power (P _{acmax} @cosφ=1)	22000 W up to 30°C (3)	22000 W up to 30°C (3)	33000 W up to 30°C (3)	36300 W up to 30°C (3)
Maximum apparent power (S _{max})	22000 VA up to 30°C (4)	22000 VA up to 30°C (4)	33000 VA up to 30°C (4)	36300 VA up to 30°C (4)
Maximum reactive power (Q _{max})	20000 VAR	20000 VAR	30000 VAR	33000 VAR
Nominal power factor and adjustable range	> 0.995; 0...1 inductive/capacitive			
Rated AC grid voltage (V _{ac,r})	380V, 400V (5)			
Maximum AC output current (I _{ac,max})	33,4 A	33,4 A	50,1 A	55,1 A
Rated output frequency (f _r)	50 Hz / 60 Hz			
Output frequency range (f _{min} ...f _{max})	47...53 Hz / 57...63 Hz (6)			
Total current harmonic distortion	<3%			
Maximum AC cable	35 mm2 copper/aluminum			
AC connection type	Detachable Terminal Block			
Output protection				
Anti-islanding protection	According to local standard			
Maximum external AC overcurrent protection	63 A	63 A	80 A	80 A
Output overvoltage protection	SPD Type II			
Operating performance				
Maximum efficiency (μ _{max})	98,4%	98,4%	98,4%	98,4%
Euro efficiency	98,2%	98,2%	98,2%	98,2%
Communication				
Embedded communication interfaces	Dual Ethernet port, WLAN, advanced RS-485 port (optional)			
Communication protocol	Modbus TCP Sunspec, Modbus RTU Sunspec (optional)			
User Interface	LEDs, Web User Interface, Installer APP, Display (optional)			
Cloud services	Aurora Vision® Plant Management Platform, Rest API			
Advanced functions	Embedded export limitation control (in combination with external meter), 24h self consupntion monitoring			

Type code	PVS-20-TL (2MPPT)	PVS-20-TL (4MPPT)	PVS-30-TL	PVS-33-TL
Input side				
Environmental				
Ambient temperature range	-25...+60°C (-13...140 °F) with derating above 45 °C (113 °F)			
Relative humidity	4%... 100% condensing			
Maximum operating altitude	4000 m	4000 m	4000 m	4000 m (13123 ft) with derating above 3000 m (9842 ft)
Physical/General				
Inverter typology	Grid connected, double stage, transformerless			
Environmental protection rating	IP65			
Environmental classification	4K26 (IEC 60721-3-4)			
Cooling	Forced air			
Dimension (H x W x D)	675 (799,2 with connection boxes) x 591,8 x 227,5 mm			
Weight	50 Kg			
Mounting system	Single mounting bracket (vertical and horizontal installation)			
Safety				
Marking	CE, RCM			
Safety, EMC and RED standard	"IEC/EN 62109-1, IEC/EN 62109-2, EN 61000-6-1, EN 61000-6-2, EN 61000-3-11, EN 61000-3-12, EN 62311, EN 301 489-1, EN 301 489-17, EN 300 328"			
Grid standard (check your sales channel for availability)	"IEC 61683, EN 50530, IEC 62116, IEC 61727, AS/NZS 4777.2, VDE-AR-N 4105, VDE-AR-N 4110, VDE V 0124-100, DIN VDE V 0126-1-1, VFR 2019, UTE C15-712-1, CEI 0-21, CEI 0-16, PEA, MEA, EN 50438, EN 50549-1/-2, DRRG (DUBAI), CLC/TS 50549-1/-2, TOR Erzeuger, G99, Synergrid C10/11, RD 413, RD 1565, RD244, P.O. 12.3, NTS 631, UNE 206006 IN (ITC-BT-40), PPDS-priloha, Denmark Type A/B, IRR-DCC-MV, ABNT NBR 16149, ABNT NBR 16150, Chile LV/MV, NRS 097-2-1, SII, ISO/IEC Guide 67, Netherlands Type A, EIFS Type A, Ireland			
Available product variants				
8 inputs with PV quick fit connectors + SPD Type 2 on the DC and AC side	PVS-20-TL-SX	PVS-20-TL-SXD	PVS-30-TL-SX	PVS-33-TL-SX
8 inputs with PV quick fit connectors + SPD Type 1+2 on the DC side and Type 2 on the AC side	PVS-20-TL-SY	-	PVS-30-TL-SY	PVS-33-TL-SY
8 inputs with PV quick fit connectors + SPD Type 2 on the DC and AC side for IT system	-	-	-	PVS-33-TL-SI
Optional available				
PID recovery	Available only on the SX version	-	Available only on the SX version	Available only on the SX version
AFCI	Available only on the SX version	-	Available only on the SX version	Available only on the SX version
Display	Available only on the SX version	-	Available only on the SX version	Available only on the SX version

1) 30 A for Australia and New Zealand

2) Available only with a dedicated version called "SI", with 33kW of power

3) Due to country specific regulations this value can be limited to the rated value (20kW for PVS-20-TL, 30kW for PVS-30-TL, 33kW for PVS-33-TL)

4) Due to country specific regulations this value can be limited to the rated value (20kVA for PVS-20-TL, 30kVA for PVS-30-TL, 33kVA for PVS-33-TL)

5) The AC voltage range may vary depending on specific country grid standards

6) The Frequency range may vary depending on specific country grid standards

Remark. Features not specifically listed in the present data sheet are not included in the product



For more information please contact your local FIMER representative or visit:

fimer.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. FIMER does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of FIMER. Copyright© 2021 FIMER. All rights reserved.



POWER PEAK™ AL

Aluminum Large Scale
Ground Mount System



 COMMUNICATIONS  ENERGY  SPECIAL INDUSTRIES  SOLAR

POWER
PEAK



The POWER PEAK™ AL – PV Solar Mounting System

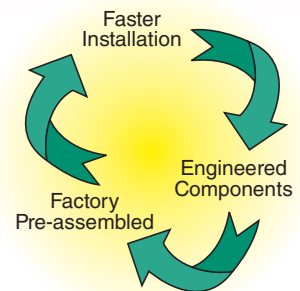
The **POWER PEAK™ AL** PV mounting system is designed for larger scale ground mount installations that require faster build rates. Combining high strength steel attachment components, lightweight module rails and the patented Lock-in-Place RAD™ clamp, the POWER PEAK provides a fast and secure mounting structure for most PV modules.

POWER PEAK mounting structures are optimized to site-specific conditions and assemble over pile driven galvanized “I” beams. Component attachments feature built-in field adjustments for post misalignment and include captive bolts. The single row, vertical post design greatly reduces the number of ground penetrations while providing increased ground clearance options.

The POWER PEAK mounting system assembles without any lifting equipment or machinery and pre-assembled components significantly reduce installation time and labor. Structures are specified and manufactured to match module string counts to reduce wiring time and materials. The unique module rails feature built in wire channels for a professional appearance.

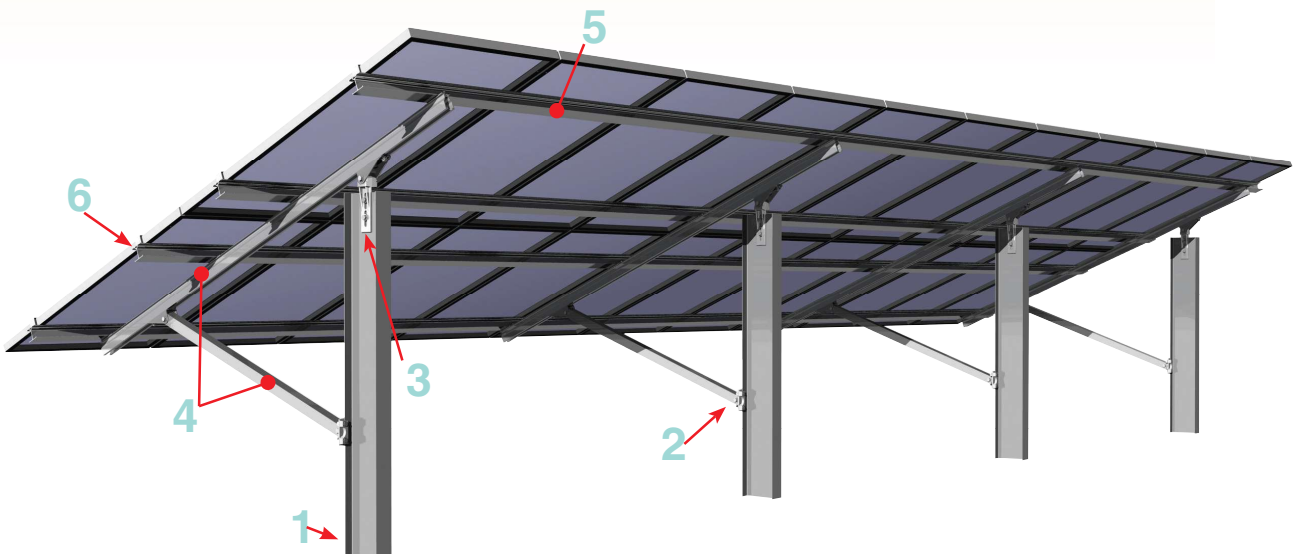
Technical Services Offered

- Permit ready drawings
- Quick turnaround on proposals
- Foundation designs
- Pile driving proposals
- Rack assembly proposals



Key Benefits

- **Site Optimized Designs**
Reduces overall material costs
- **Factory Pre-assembled Components**
Eliminates field measurements and handling of small hardware
- **String Size Matched Sub-arrays**
Faster repetitive layouts, easier wiring
- **Local Pre-drilled I-Beam Vertical Posts**
Eliminates on-site fabrication and reduces freight costs
- **Racking Adjustments**
Easier to square the structure when posts twist or misalign
- **Lightweight Components**
Eliminates heavy-duty lifting equipment and promotes “assembly-line” installation
- **Integral Wire Management**
Reduces labor, meets code and provides a clean and professional appearance
- **Module Clamp Assemblies**
Faster installation with a ¼" turn and no loose parts



Performance and Simplicity Connect

1 Standard I Beams

- Pile Driven with standard equipment
- Sized per site conditions to reduce overall system costs
- Sourced locally to reduce freight costs and delivery times
- Predrilled and galvanized - **Ready to install**



2 Strut Attachment

- Field adjustable
- Captive bolts – **No loose parts**
- Hot dip galvanized corrosion protection
- Lateral adjustments resolve twisted posts



3 Strongback Attachments

- Vertical field adjustments (2.5 inches)
- Hot dip galvanized **corrosion protection**
- Built-in articulation for twisted posts (± 5 degrees)
- High strength steel



4 Strongback Assembly

- Unfold and hang for easy assembly to posts
- Factory pre-assembled – strong back / strut / rail brackets
- **Field adjustable for easy alignment**
- Lightweight, High Strength Aluminum



5 Module Rails

- Lightweight, High Strength Aluminum
- **Built-in Wire channels**
- Lift into place
- Long lengths minimize splices



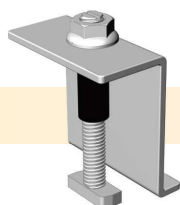
6 Module Clamps

- Pre-install clamps in rail then slide module in place.
- Heavy-duty stainless steel
- Factory pre-assembled – Lock-in-Place **RAD™ clamp**
- Built-in electrical grounding option
- Secure module clamping

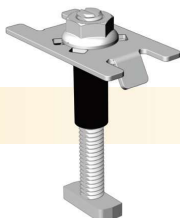


Pre-Assembled Components of POWER PEAK™ AL

Each POWER PEAK system ships with factory pre-assembled components, resulting in reduced installation time and costs. Preset components not only avoid loose parts on-site but also eliminate measuring and simplify the installation.



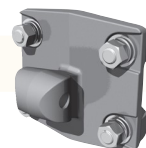
End Clamp Assembly



Mid Clamp Assembly



Strongback Assembly



Strut Attachment Assembly

The POWER PEAK AL is the newest member of PLP's field-proven ground mount solutions including:

Multi-Pole Mounts (MPM-G2)

Large Ground Mounts (LGM)

PLP's engineering staff is available to assist with your next project. Please visit www.preformed.com and complete an RFQ Form or contact our product support team at (800) 260-3792.



Global Headquarters
660 Beta Drive
Cleveland, Ohio 44143 USA
Telephone: 440.461.5200
Fax: 440.442.8816
Website: preformed.com
Email: info@plpsolar.com

© 2017 Preformed Line Products
Printed in U.S.A.
SL-SS-1109-6
06.17.IH

