



توجه

در صورت غیر فعال بودن دکمه‌ها در سیستم عامل اندروید،
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زبان مورد نظرتان را انتخاب نمایید:

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فارسی

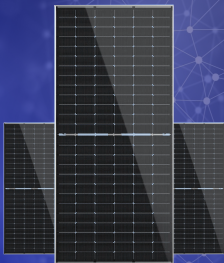


English



شروع

شروع



درباره ما



محصولات



تماس با ما



شرکت پیشگامان انرژی نوراتک با تکیه بر سرمایه انسانی متخصص و همراهی اساتید برجسته دانشگاه های مطرح کشور، مرجع تخصصی تامین و ارائه تجهیزات و محمولات انرژی خورشیدی در کشور میباشد .

نوراتک با طراحی، مشاوره و اجرای بیش از ۳۸ مگاوات پروژه نیروگاهی خورشیدی همچنین تامین و توزیع بیش از ۲۹۰ مگاوات پنل خورشیدی و ۲۱۰ مگاوات اینورتر از برندهای معتبر جهانی، در زمره بزرگترین تأمین کنندگان تجهیزات انرژی خورشیدی کشور قرار داشته و برای صنایع مختلف، کسب و کارهای متعدد، مجتمع ها و منازل مسکونی و اداری ، ویلاها و ...، راهکارهای اختصاصی با بازده بالا ارائه می نماید.

- طراحی، مشاوره و اجرای نیروگاه های خورشیدی (EPC)
- تامین انواع پنل، اینورتر، استراکچر و باتری لیتیومی (LFP)
- طراحی و اجرای سیستم های Hybrid , Off Grid, On Grid

خلاصه عملکرد سال اخیر:



۳۸ MW

حجم پروژه های
نیروگاهی فتوولتائیک



۲۱۰ MW

حجم تامین و فروش
انواع اینورتر



۲۹۰ MW

حجم تامین و فروش
انواع پنل خورشیدی

اعضای مجموعه نوراتک



بازگشت

جوایز و گواهینامه ها

همکاران استراتژیک و مشتریان ویژه



شرکت نوراتک در مسیر تحقق اهداف خود در حوزه انرژی، فناوری و توسعه زیرساخت‌های پایدار، افتخار همکاری با مجموعه‌ای از معتبرترین سازمان‌ها و شرکت‌های کشور را دارد. همکاری‌های راهبردی با نهادهایی همچون ساتبا (سازمان انرژی‌های تجدیدپذیر و بهره‌وری انرژی برق)، ساتکا (انجمن سازندگان و تامین کنندگان کالا و خدمات انرژی‌های تجدیدپذیر) و نیز شرکت لجستیک گل‌دیران، نقش مهمی در ارتقای کیفیت خدمات، گسترش شبکه تأمین و تسریع در اجرای پروژه‌ها ایفا کرده است. نوراتک این تعاملات را سرمایه‌ای ارزشمند دانسته و مبتنی بر کسب و کار منصفانه، اعتماد متقابل، مسئولیت‌پذیری و خلق ارزش مشترک، توسعه این روابط را دنبال می‌کند.





مدیرعامل: حسام کازری

دکترای مهندسی برق قدرت، دانشگاه صنعتی شریف

عضو هیئت علمی دانشگاه علم و صنعت ایران

پژوهشگر مدعو در دانشگاه Imperial college london

موسس، سهامدار و مشاور ۳ شرکت دانش بنیان (در صنعت برق و انرژی)

رئیس هیئت مدیره: حامد نجفی

دکترای اقتصاد، دانشگاه علامه طباطبائی

مدرس دانشکده مدیریت دانشگاه تهران

موسس، مدیرعامل و سهامدار شرکت مینا

مالک و مجری ۱۴ مگا وات نیروگاه خورشیدی در منطقه ویژه اقتصادی پیام

نایب رئیس هیئت مدیره: عباس خالقی تبار

دکترای حرفه ای مدیریت بازرگانی، دانشگاه تهران

مدیر کل برنامه ریزی سازمان توسعه تجارت ایران

مدیرعامل مرکز آموزش بازرگانی

رئیس دانشگاه علمی کاربردی بازرگانی

مدیر گروه دوره DBA مدیریت بازرگانی دانشگاه تهران



بازگشت

عضو هیئت مدیره: سیده فاطمه سید صالحی

دکترای هوش مصنوعی ، دانشگاه صنعتی شریف

پژوهشگر مدعو دانشگاه UC Berkeley

عضو هیئت علمی دانشگاه شریف

مشاور همراه اول در حوزه هوش مصنوعی

مشاور بانک رفاه در حوزه هوش مصنوعی

سایر همکاران :

همکاری با بیش از ۲۳ نفر از مدیران و کارشناسان حرفه ای در حوزه مشاوره، طراحی، تامین، فروش، نصب، راه اندازی و خدمات پس از فروش در کل زنجیره محصولات و تجهیزات خورشیدی



بازگشت

محصول مورد نظر را انتخاب کنید



باتری LFP



اینورتر



پنل خورشیدی



اکسسوری



کابل



حسگر سنجش کلایی

به زودی...



پست کمپکت



استراکچر



بازگشت

تماس با پشتیبانی





پنل خورشیدی

برند مورد نظر را انتخاب کنید

JinkO Solar



Trinasolar



بازگشت

تماس با پشتیبانی



JinKO Solar

سری مورد نظر را انتخاب کنید

نیروگاهی / ۷۰۰⁺ W



صنعتی / ۶۰۰⁺ W



خانگی / ۴۰۰⁺ W



بازگشت

تماس با پشتیبانی



Tiger Bifacial 450-470 Watt

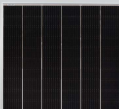
Tiling Ribbon (TR) Technology

Positive power tolerance of 0~+3%

ISO9001:2015, ISO14001:2015, ISO45001:2018
certified factory

IEC61215, IEC61730 certified product

N-Type



KEY FEATURES



TR technology + Half Cell

TR technology with Half cell aims to eliminate the cell gap to increase module efficiency (mono-facial up to 20.65%)



Low Light Induced Degradation

The N-type cell shows extremely low light induced degradation (LID) performance when comparing with the P-type cell.



9BB instead of 5BB

9BB technology decreases the distance between bus bars and finger grid line which is benefit to power increase.



Higher Lifetime Power Yield

1% first year degradation,
0.4% linear degradation



Best Warranty

15 year product warranty,
30 year linear power warranty



Better low-light performance

Excellent performance in low-light environments
(e.g. early morning, dusk, and cloud, etc.)



Severe Weather Resilience

Certified to withstand: wind load [2400 Pascal] and snow load [5400 Pascal].

LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty 30 Year Linear Power Warranty
0.4% Annual Degradation Over 30 years

■ N-Type performance warranty
■ P-Type performance warranty

-0.4%

30-year Power
Warranty Annual
Power Attenuation
0.4%

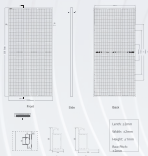


بازگشت

ادامه اطلاعات فنی

JinkO Solar

Engineering Drawings



Packaging Configuration

(Two pallets + One stack)

375pcs/pallets, 825pcs/stack, 6275pcs/ 40HQ Container

Electrical Performance & Temperature Dependence

Current (Voltage & Power) Voltage Current (AMPS)



Temperature Dependence of Isc, Voc, Pmax



Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	156 (2x78)
Dimensions	2225±10mm±25mm (88.01±0.01±1.00 inch)
Weight front	25.0 kg (55.12 lbs)
Glass	3.2mm Anti-Reflective Coating, High Transmittance, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	3x2.5 T+L 0.9mm ² (+/-) 250mm, (-) 150 mm or Customized Length

SPECIFICATIONS

Module Type	JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM650N-TRL3-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	4700wp	3200wp	4700wp	3200wp	4700wp	3200wp	4700wp	3200wp	4700wp	3200wp
Maximum Power Voltage (Vmp)	43.60V	40.00V	43.60V	40.00V	43.60V	40.00V	43.60V	40.00V	43.70V	40.47V
Maximum Power Current (Imp)	10.80A	8.00A	10.80A	8.00A	10.80A	8.00A	10.80A	8.00A	10.76A	8.00A
Open-circuit voltage (Voc)	51.70V	48.80V	51.70V	48.80V	51.70V	48.80V	52.00V	49.00V	52.10V	49.10V
Short-circuit Current (IsC)	11.01A	8.86A	11.06A	9.01A	11.20A	9.08A	11.34A	9.16A	11.43A	9.23A
Module Efficiency STC (%)	19.78%		20.00%		20.21%		20.43%		20.68%	
Operating Temperature(°C)	-40℃~+85℃									
Maximum system voltage	1500VDC (60C)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficient of Pmax	-0.34%/℃									
Temperature coefficient of Voc	-0.28%/℃									
Temperature coefficient of Isc	0.045%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									
Refer. Bill of Material	80±0%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

	STC	NOCT	STC	NOCT	STC	NOCT
9%	Maximum Power (Pmax)	4700wp	4700wp	3200wp	4700wp	3200wp
	Module Efficiency STC (%)	20.78%	20.88%	21.23%	21.68%	21.68%
18%	Maximum Power (Pmax)	5100wp	3200wp	3200wp	3200wp	3200wp
	Module Efficiency STC (%)	22.14%	22.88%	22.28%	22.88%	21.75%
30%	Maximum Power (Pmax)	5850wp	3200wp	3200wp	3200wp	3200wp
	Module Efficiency STC (%)	25.71%	25.88%	26.28%	26.88%	26.05%

* STC:  Irradiance 1000W/m²

 Cell Temperature 25°C

 AM=1.5

NOCT:  Irradiance 800W/m²

 Ambient Temperature 20°C

 AM=1.5

 Wind Speed 1m/s

Power measurement tolerance ± 3%

The company reserves the final right for explanation on any of the information presented hereby. TR-JKM650-470N-TRL3-TV-A1-1-GN



بازگشت

تماس با پشتیبانی



JinkO Solar TIGER Neo



66HL4M-BDV

605-630 Watt

BIFACIAL MODULE WITH DUAL GLASS

N-type



N-Type Technology

N-Type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LetID degradation and better low light performance.



HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.



Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

12 Year | 30 Year | 1% | 0.40%

- IEC61215:2021 / IEC61730:2023
- IEC61731 / IEC62716 / IEC60808 / IEC62884
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems



SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.



JKM605-630N-66HL4M-BDV-F3-EN



بازگشت

ادامه اطلاعات فنی

Mechanical Characteristics

Cell Type	N-type Mono-crystalline
No. of cells	132 (66×2)
Dimensions	2382×1134×30 mm
Weight	32.4 kg
Front Glass	2.8 mm, Anti-reflection Coating
Back Glass	2.8 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	MC4/MC4/Others
Output Cables	4.6 mm ² (+): 480 mm, (-): 208 mm or Customized Length

Packaging Configuration

Pallet Dimensions	2396×1116×1253 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, (Two pallets = One stack)
	720 pcs/40 HQ Container

Specifications (STC)

Maximum Power - P _{max} [Wp]	665	610	615	628	625	630
Maximum Power Voltage - V _{mp} [V]	48.31	48.46	48.60	48.74	48.88	41.02
Maximum Power Current - I _{mp} [A]	15.81	15.08	15.15	15.22	15.29	15.36
Open-circuit Voltage - V _{oc} [V]	48.48	48.68	48.88	49.08	49.28	49.48
Short-circuit Current - I _{sc} [A]	15.90	15.96	16.02	16.08	16.14	16.20
Module Efficiency STC (%)	22.40	22.58	22.77	22.95	23.14	23.32
Power Tolerance	0 ~ +3 %					
Temperature Coefficients of P _{max}	-0.29 %/°C					
Temperature Coefficients of V _{oc}	-0.25 %/°C					
Temperature Coefficients of I _{sc}	0.045 %/°C					

STC Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNP)

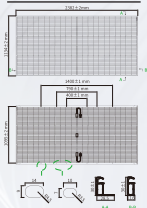
Maximum Power - P _{max} [Wp]	668	674	679	685	690	696
Maximum Power Voltage - V _{mp} [V]	48.29	48.46	48.59	48.75	48.88	41.04
Maximum Power Current - I _{mp} [A]	16.58	16.95	16.73	16.83	16.88	16.95
Open-circuit Voltage - V _{oc} [V]	48.46	48.66	48.86	49.06	49.26	49.46
Short-circuit Current - I _{sc} [A]	17.56	17.64	17.70	17.77	17.83	17.90

BNP Irradiance from 1000W/m² near 1200W/m², Cell Temperature 25°C, AM=1.5

Application Conditions

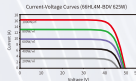
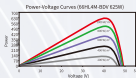
Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficient	q _{Voc} : 58 ± 5 %, q _{Isc} : 68 ± 5 %, q _{Pmax} : 80 ± 5 %

Engineering Drawings



Note: for specific dimensions and tolerances, please refer to the corresponding detailed module drawings.

Electrical Performance



بازگشت

تماس با پشتیبانی



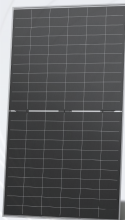
Jinko Solar TIGER Neo

66HL5-BDV

710-735 Watt

BIFACIAL MODULE WITH DUAL GLASS

N-type



N-type Technology

N-type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LeTID degradation and better low light performance.



HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.



SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load



Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.



12 Year Powermax | 30 Year Powermax | 1% Powermax Degradation | 0.40% Powermax Loss

- IEC61215:2011 / IEC61730:2025
- IEC61701 / IEC62716 / ISO9068 / IEC62964
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems



JKM710-735N-66HL5-BDV-Z3-EN



بازگشت

ادامه اطلاعات فنی

Mechanical Characteristics

Cell Type	Hi-type Mono-crystalline
No. of cells	132 (66×2)
Dimensions	2384×1303×33 mm
Weight	32.5 kg
Front Glass	2.0 mm, Anti-Reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JKR3M/JKR3M2/Others*
Output Cables (Including Connector)	4.0 mm ² [H]: 400 mm, [L]: 200 mm or Customized Length

* M04 and M04-EVO2 available upon request and subject to availability

Packaging Configuration

Pallet Dimensions	1325×1123×2486 mm
Packing Detail (Two pallets = One stack)	33 pcs/pallets, 994 pcs/ 40 HQ Container

Specifications (STC)

	T10	T15	T20	T25	T30	T35
Maximum Power - P _{max} [Wp]	710	715	720	725	730	735
Maximum Power Voltage - V _{mp} [V]	48.65	48.77	49.09	49.06	49.11	49.23
Maximum Power Current - I _{mp} [A]	12.47	12.54	12.61	12.69	12.76	12.83
Open-circuit Voltage - V _{oc} [V]	48.73	48.88	49.04	49.20	49.36	49.52
Short-circuit Current - I _{sc} [A]	18.53	18.60	18.67	18.74	18.81	18.88
Module Efficiency STC [%]	22.86	23.02	23.18	23.34	23.50	23.66
Power Tolerance	0 ~ +3 %					
Temperature Coefficient of P _{max}	-0.23 %/°C					
Temperature Coefficient of V _{oc}	-0.25 %/°C					
Temperature Coefficient of I _{sc}	0.945 %/°C					

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNPL)

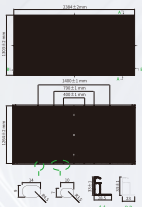
	T84	T90	T95	800	805	810
Maximum Power - P _{max} [Wp]	40.68	40.80	40.92	41.03	41.14	41.25
Maximum Power Voltage - V _{mp} [V]	19.28	19.36	19.43	19.50	19.57	19.64
Maximum Power Current - I _{mp} [A]	15.28	15.35	15.43	15.50	15.57	15.64
Open-circuit Voltage - V _{oc} [V]	48.73	48.85	48.99	49.12	49.25	49.38
Short-circuit Current - I _{sc} [A]	20.48	20.55	20.63	20.71	20.79	20.87

BNPL: Irradiance from 1000W/m², max 120W/m², Cell Temperature 25°C, AM=1.5

Application Conditions

Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficients	qRsc: 95±5 %, qLsc: 80±5 %, qPmax: 80±5 %

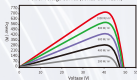
Engineering Drawings



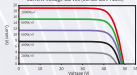
*Note: For specific dimensions and tolerances, please refer to the corresponding detailed module drawings.

Electrical Performance

Power-Voltage Curves (6HL5-BDV T35W)



Current-Voltage Curves (6HL5-BDV T25H)



بازگشت

تماس با پشتیبانی





TrinaSolar

سری مورد نظر را انتخاب کنید

نیروگاهی / ۷۰۰⁺ W



صنعتی / ۶۰۰⁺ W



خانگی / ۴۰۰⁺ W



بازگشت

تماس با پشتیبانی



Vertex S+

DUAL GLASS N type i-TOPCon MODULE

PRODUCT: TSM-MEG9R.28

POWER RANGE: 425-450 W

450 W

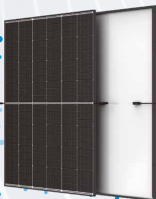
MAXIMUM POWER OUTPUT

0/+5 W

POSITIVE POWER TOLERANCE

22.5 %

MAXIMUM EFFICIENCY



Small in size, bigger on power

- Generates up to 450 W, 22.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Reduces installation cost with higher power bin and efficiency



Dual-glass Design, High Reliability

- Excellent fire rating and resistance to harsh environmental conditions
- 5,400 Pa snow load and 4,000 Pa wind load (test loads)



Maximize Energy Harvest

- Up to 25 years product warranty and 30 years power warranty
- 1 % first-year degradation and 0.4 % annual degradation enabled by N-type technology



Universal solution for residential and C&I rooftops

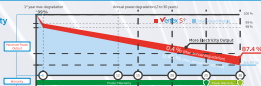
- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling, Optimized transportation cost
- Flexible installation solutions for system deployment

Extended Vertex S+ Warranty

1 %
1st year max degradation

0,4 %
Max. annual degradation from year 2 to 30

25 Years
Product Worked up Warranty



بازگشت

ادامه اطلاعات فنی

Back View

Slope sensor

Laminator

Frame

11.5

11.5

Solar Cells	Monocrystalline
No. of cells	244 cells
Module Dimensions	1840*1134*30mm
Weight	21.0kg
Front Glass	1.6mm, High Transmission, Air-Coated Heat Strengthened Glass
Encapsulant material	PGE/EVA
Back Glass	1.6mm, Heat Strengthened Glass
Frame	30mm-Anodized Aluminum Alloy, Black
J-Box	6*600-rated
Cable	Photovoltaic Technology Cable 4.8 mm ² Lengths: 1130/1180 mm Power: 280/350 mm ²
COMPANY	TSR / NEW ERGON

^aFigure 1a and 1b are not shown.

NOCT (max. ambient temperature)	41°C (105°F)	Operational Temperature	-40 to +85 °C
Temperature Coefficient of Power	-0.30 %/K	Maximum System Voltage	1500VDC (80)
Temperature Coefficient of $R_{DS(on)}$	-8.24 %/K	Max-Series Fuse Rating	20A
Temperature Coefficient of I_{sc}	0.04 %/K		

25-year Product Workmanship Warranty	Module per box: 360 pieces
100-year Power Life Cycle	Module per 400 container: 100 pieces
1-10 Year degradation	
0.4 W Annual Power Efficiency	

Vertex N TrinaSolar

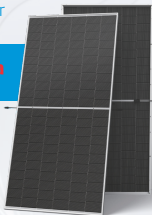
N-type i-TOPCon Ultra

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG19RC,20 620-645W

645W / MAXIMUM POWER OUTPUT

23.9% / MAXIMUM EFFICIENCY



High customer value

- Best partner of 3P tracker, with highest utilization of tracker length
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 1%~5%
- Standardized module size with higher container space utilization effectively reduces the freight cost
- Excellent compatibility with existing mainstream system components
- Certified Low-Carbon Footprint



High power up to 645W

- Up to 23.9% module efficiency, on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency upgrade, including contact resistance reduction, rear reflection enhancement and edge-quality repairment



High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



Comprehensive Products and System Certificates

- IEC61215 IEC61730 IEC61703 IEC62716/UL61730
- ISO9001: Quality Management System
- ISO14001: Environmental Management System
- ISO4004: Greenhouse Gases Emissions Verification
- ISO45001: Occupational Health and Safety Management System
- ISO4067: Product Carbon Footprint Limited Assurance



بازگشت

ادامه اطلاعات فنی

ELECTRICAL DATA (STC & NOCT & BIPV)												
Testing Condition	STC			NOCT			BIPV			STC		
Peak Power Watts-Pmax(Wp)*	620	473	587	525	477	592	630	481	590	635	487	704
Power Selection (W) ^{1,2}	0 ~ 5											
Maximum Power Voltage-Vmp(V)	40.24	37.90	43.24	40.46	38.10	40.46	40.68	38.30	40.68	40.80	38.50	43.80
Maximum Power Current-Imp(A)	15.41	12.47	17.07	15.45	12.52	17.12	15.48	12.57	17.15	15.55	12.60	17.23
Open Circuit Voltage-Voc(V)	48.50	46.10	48.50	48.79	46.30	48.79	48.90	46.50	48.90	49.10	46.80	49.10
Short Circuit Current-Isc(A)	16.26	13.10	18.00	16.32	13.15	18.09	16.38	13.20	18.15	16.44	13.25	18.22
Module Efficiency-m(%)	23.0			23.1			23.3			23.5		

STC: irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5, NOCT: irradiance at 800W/m², Ambient Temperature 35°C, Wind Speed 1m/s, BIPV: irradiance at 1000W/m², rear 1750W/m², Temperature 25°C, Air Mass AM1.5
¹ Assuming tolerance: ±1%. ² Power selection up to ±1%.

Electrical characteristics with different power bin (reference to 1% & 10% backside power gain)												
Backside Power Gain	5%		10%		5%		10%		5%		10%	
Peak Power Watts-Pmax(Wp)	661	662	665	666	662	660	667	669	672	704	677	710
Maximum Power Voltage-Vmp(V)	40.24	40.24	40.46	40.46	40.68	40.68	40.80	40.80	41.06	41.06	41.22	41.22
Maximum Power Current-Imp(A)	16.18	16.95	16.22	17.80	16.26	17.04	16.33	17.11	16.38	17.09	16.48	17.72
Open Circuit Voltage-Voc(V)	48.50	48.50	48.79	48.79	48.90	48.90	49.10	49.10	49.30	49.30	49.52	49.52
Short Circuit Current-Isc(A)	17.07	17.89	17.14	17.95	17.20	18.02	17.26	18.08	17.34	18.18	17.30	18.21
Power Efficiency-m(%)												

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (121°F)
Temperature Coefficient of Pmax	-0.25%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	0.04%/°C
Due to different testing methods, the actual performance might differ from the declared specifications.	

MAXIMUM RATINGS

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

I-V CURVES OF PV MODULE (E60W)

This graph shows the current (A) versus voltage (V) for the PV module at different temperatures. The x-axis represents voltage (V) from 0 to 60, and the y-axis represents current (A) from 0 to 36. Five curves are plotted for temperatures: 25°C, 35°C, 45°C, 55°C, and 65°C. The current decreases as the temperature increases.

P-V CURVES OF PV MODULE (E60W)

This graph shows the power (W) versus voltage (V) for the PV module at different temperatures. The x-axis represents voltage (V) from 0 to 60, and the y-axis represents power (W) from 0 to 700. Five curves are plotted for temperatures: 25°C, 35°C, 45°C, 55°C, and 65°C. The power decreases as the temperature increases.

MECHANICAL DATA			
Total Cells	H-type 120 Cells Monocrystalline		
No. of cells	132 cells		
Module Dimensions	2382*1134*35 mm (93.8*44.6*1.37 inch)		
Weight	15.2 kg (33.6 lbs)		
Front Glass	2.0 mm monocrystalline, AR Coating/Heat Strengthened Glass		
Back Glass	2.0 mm monocrystalline, Heat Strengthened Glass, anti-scratch		
Frame	30mmx1.2mmx1.2mm Anodized Aluminum Alloy		
J-Box	IP 68 rated		
Cables	Photovoltaic Technology Cable-A 5mm ² (16 AWG) monocrystalline, Polyethylene (PE) jacket, 1500V DC, 2000V AC, 1000h UV, 1000h salt mist, 1000h humidity, 1000h vibration		
Connector	MC4-1000 / T154 Pinout T154P		
Packaging	Modules per box: 36 pieces, Modules per 40HQ container: 720 pieces		

*Please refer to regional distributor for specified conversion.

Vertex N **TrinaSolar**

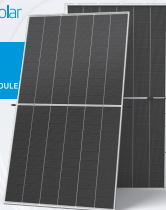
N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20 700-725W

725W / MAXIMUM POWER OUTPUT

23.3% / MAXIMUM EFFICIENCY



High customer value

- Standardized module size with flagship module power, 30W higher compared with conventional technology
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 2%~5%
- Higher container space utilization effectively reduces the freight cost
- Certified Low-Carbon Footprint
- The Star of LCOE



High power up to 725W

- Up to 23.3% module efficiency, on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge-quality repairment



High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



*Please refer to product warranty for details

Comprehensive Products and System Certificates

ISO9001:2015/ISO14001:2015/ISO45001:2018
 ISO9000: Quality Management System
 ISO14001: Environmental Management System
 ISO45001: Occupational Health and Safety Management System
 ISO45000: Occupational Health and Safety Management System
 ISO14067: Product Carbon Footprint Limited Assurance



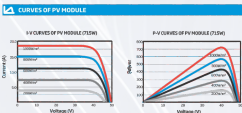
بازگشت

ادامه اطلاعات فنی

ELECTRICAL DATA (STC & NOCT & BWH)												
Testing Condition	STC	NOCT	BWH	STC	NOCT	BWH	STC	NOCT	BWH	STC	NOCT	BWH
Peak Power(Watts-Peak(W))*	700	594	776	705	540	781	710	548	787	715	547	792
Power Selection (W)**	0 ~ +5											
Maximum Power Voltage-V _{mp} (V)	40.5	38.0	40.5	40.7	38.3	40.7	40.5	38.5	40.9	41.3	38.7	41.1
Maximum Power Current-I _{mp} (A)	17.29	14.04	19.25	17.33	14.08	19.19	17.38	14.12	19.25	17.46	14.14	19.28
Open Circuit Voltage-V _{oc} (V)	48.6	46.1	48.6	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2
Short Circuit Current-I _{sc} (A)	20.32	14.76	20.30	20.36	14.80	20.34	20.40	14.83	20.39	20.44	14.86	20.43
Module Efficiency (%)	22.5			22.7			22.9			23.0		
STC Irradiance: 1000W/m ² , Cell Temperature: 25°C, Air Mass: 1.5, NOCT Irradiance: 800W/m ² , Ambient Temperature: 45°C, Wind Speed: 1m/s, BWH Irradiance: 1000W/m ² , Solar Time: 12:00, Angle: 36.82°												

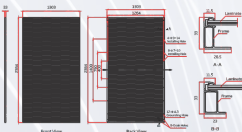
Electrical characteristics with different power bin (reference to 0% & 10% backside power gain)												
Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-Peak(W)	705	770	740	776	746	781	752	787	756	792	761	798
Maximum Power Voltage-V _{mp} (V)	40.5	40.5	40.7	40.7	40.9	40.9	41.1	41.1	41.3	41.3	41.5	41.5
Maximum Power Current-I _{mp} (A)	18.25	19.02	18.29	19.06	18.29	19.10	18.27	19.14	18.31	19.18	18.34	19.22
Open Circuit Voltage-V _{oc} (V)	48.6	48.6	48.8	48.8	49.0	49.0	49.2	49.2	49.4	49.4	49.6	49.6
Short Circuit Current-I _{sc} (A)	19.24	20.15	19.28	20.20	19.32	20.24	19.36	20.28	19.41	20.34	19.47	20.39
Power Efficiency: 90.15%												

TEMPERATURE RATINGS	
NOCT (Maximum operating cell temperature)	45°C (113°F)
Temperature Coefficient of P _{max}	-0.29%/°C
Temperature Coefficient of V _{oc}	-0.24%/°C
Temperature Coefficient of I _{sc}	0.04%/°C
Due to different testing methods, the actual performance might differ from the declared specifications.	
APPLICATION CONDITIONS	
Operating Temperature	-40 ~ +70°C
Maximum System Voltage	1500V DC (ETC)
	1500V DC (UL)
Max Series Fuse Rating	75A



MECHANICAL DATA	
Solar Cells	A-type 1 TOPCON Monocrystalline
No. of cells	144 cells
Module Dimensions	2084±0.5mm×993mm±0.5mm (UL & IEC)±0.5mm
Weight	36.5kg±0.5kg
Front Glass	2.0mm±0.1mm, AR-Coating Heat-Strengthened Glass
Back Glass	2.0mm±0.1mm, Heat-Strengthened Glass anti-reflection
Frame	Fluorine-coated Anodized Aluminum Alloy
J-Box	IP68 rated
Cables	Photovoltaic Technology Cable: 4-core PV conductors Portable: 25×25mm (min) LRV (min) rated Length can be customized
Connector	HCK EVSE / T54 Plus / T54 [†]
Packaging	Modules per box: 33pieces Modules per 400 container: 554 pieces

[†] Please refer to regional distributor for specified connector.





اینورتر

برند مورد نظر را انتخاب کنید

GROWATT



 solis



SUNGROW



 HUAWEI



بازگشت

تماس با پشتیبانی



اینورتر **GROWATT**

مدل مورد نظر را انتخاب کنید



On Grid

Max 100 - 125KTL3-XLV



Off Grid

SPF 6000 ES Plus



Hybrid

WIT 4-15K-HU



بازگشت

تماس با پشتیبانی

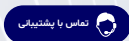


Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data (DC)				
Max. DC voltage			1100V	
Start voltage			195V	
Nominal voltage			600V	
MPP voltage range			180V-1080V	
No. of MPP trackers			30	
No. of PV strings per MPP tracker			2	
Max. input current per MPP tracker			32A	
Max. short-circuit current per MPP tracker			40A	
Output data (AC)				
AC nominal power	120000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	120000VA	125000VA
Nominal AC voltage (range*)	220V/230V 230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz/45-65Hz/58-62 Hz			
Max. output current	150.5A(±40V) 147.1A(±380V)	174.5A(±40V) 163.8A(±380V)	140.5A(±40V) 260.5A(±380V)	198.5A(±40V) 208.9A(±380V)
Adjustable power factor	0.8leading-0.8lagging			
THDi	<3%			
AC grid connection type	3ø+N+PE			
Efficiency				
Max. efficiency		98.8%	98.8%	98.8%
European efficiency	98.4%	98.5%	98.5%	98.5%
MPP efficiency		99.9%	99.9%	99.9%
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type I / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
String detection	Yes			
Anti-PD function	Optional			
Arc fault detection (AFCI)	Optional			
General data				
Dimensions (W/H/D)	970x443x45mm			
Weight	54kg			
Operating temperature range	-20°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4MC4 (Max.4mm²)			
AC connection	C1 terminal (Max. 3.0mm²)			
Display	LED/RS485-APP			
Integrating: RS485 / USB / PLC/OPGW/485/RS485	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE, UKCA, IEC62116, IEC61727, CQC, VDE0125, VDE0126, IEC62549, IEC62549-1/-2, C100C11, UNE206037, G99, C3 0-215-16, N4105, IEC626506, MCA, PEA, IEC62545				

CE, UKCA, IEC62116, IEC61737, CQC, VDE0136, VR2019, BV5849-U-2, C110C1/L, IEC62060T, GPR, CE-0-219-16, RA105, IEC620606, MCA, RA, IEC61555

* The AC voltage range and frequency range may vary depending on specific country grid standard.

All specifications are subject to change without notice.



Datasheet	SPF 6000 ES Plus
Battery voltage	48VDC
Battery type	Lithium/Lead-acid
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum
AC voltage regulation (battery model)	230VAC $\pm$ 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	128VDC $\sim$ 450VDC
Number of independent MPPT trackers/ strings per MPPT tracker	2/1
Max. input current per MPPT tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	130-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
Protection degree	IP23
Dimension (W/H/D)	440/385/132mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity (Non-condensing)
Altitude	$\leq$ 2000m
Operating temperature	0°C $\sim$ 50°C
Storage temperature	$-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$



بازگشت

تماس با پشتیبانی



Datasheet	WT 4K-HU	WT 5K-HU	WT 6K-HU	WT 8K-HU	WT 10K-HU	WT 12K-HU	WT 15K-HU
Input data (PV)							
Max. recommended PV power (30° module STC)	6400W	8000W	9600W	12800W	16000W	19200W	24000W
Max. input voltage				1800V			
Start voltage				180V			
Nominal voltage				400V			
MPP voltage range				150V-850V			
Max. input current per MPP tracker	40A			25A		40A	
Max. short-circuit current per MPP tracker	50A			25A		50A	
No. of PV strings per MPP tracker	2			1		2/1	
No. of MPP trackers	1			2		2	
Input/Output AC (including the Gen Port)							
AC input/output nominal power (Grid)	8000W/8000W	10000W/10000W	12000W/12000W	16000W/16000W	20000W/20000W	24000W/24000W	30000W/30000W
Max. AC input/output apparent power (Grid)	8800VA/8800VA	11000VA/11000VA	12800VA/12800VA	17600VA/17600VA	22000VA/22000VA	26400VA/26400VA	33000VA/33000VA
Max. input/output current (Grid)	13.4A/13.4A	16.7A/16.7A	20.0A/20.0A	25.6A/25.6A	33.3A/33.3A	40.0A/40.0A	50.1A/50.0A
Max. input current (GENAC couple)	12.2A	15.2A	18.2A	24.2A	30.2A	36.4A	45.4A
Max. continuous AC pass-through current	50.1A						
Nominal AC voltage/range	230V/380V, 230V/400V, 415V-430V						
Nominal AC grid frequency/range	50/60Hz, 49-50.5Hz/49-50.5Hz						
Adjustable power factor	-1...+1						
THDi	<3%						
AC grid connection type	3P3W+PE/3P4W+PE						
Battery data (DC)							
Battery type	Lead-Acid or Lithium-Ion						
Battery voltage range/Rated voltage	48V-51.2V/51.2V						
Max. charging and discharging current	118A	125A	138A	200A	228A	250A	298A
BMS communication	RS485/CAN						
Backup power (AC)*							
Rated AC output power	4800W	5000W	6000W	8000W	10000W	12000W	15000W
Max. AC apparent power	2 time of rated power, 10s						
Rated AC output voltage	220V/230V, 230V/480V						
Nominal AC output frequency	50/60Hz						
Max. output current	12.2A@220V 11.4A@230V	15.2A@220V 14.4A@230V	18.2A@220V 20.0A@230V	24.2A@220V 22.2A@230V	30.2A@220V 29A@230V	36.4A@220V 34.8A@230V	45.4A@220V 43.4A@230V
THDi	3% (linear load)						
Load unbalance	100% three-phase unbalanced						
Double grid transfer time	10ms						
Efficiency							
Max. efficiency	97.65%						
European efficiency	97.00%						
MPP efficiency	99.95%						
Protection devices							
PV reverse polarity protection	Yes						
DC switch	Yes						
DC/AC surge protection	Type II/Type III						
Insulation resistance monitoring	Yes						
Residual-current monitoring unit	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Strings monitoring	Yes						
Anti-shading protection	Yes						
PO protection	Opt						
APC function	Opt						
General							
Dimensions (W x H x D)	415x285x240mm						
Weight	4.8kg						
Operating temperature range	-30°C ... +60°C, (-45°C, clearing)						
Noise	40dB(A)						
Relative humidity	5-95%						
Altitude	3000m						
Topology	Transformerless						
Cooling	Smart air cooling						
IP degree	IP65						
Display	LED/LCD+MP						
Interfaces: RS485/LAN	Yes						
Interface: WiFi/LAN	Yes						
Warranty (1st/10 years)	10/10yrs						

EN62109, EN 61800, EN 61723, EN 62116, EN 61483, EN 60908, EN 1899, IEC 61850

WT 4K-HU, WT 5K-HU, WT 6K-HU, WT 8K-HU, WT 10K-HU, WT 12K-HU, WT 15K-HU



بازگشت

تماس با پشتیبانی





اینورتر

مدل مورد نظر را انتخاب کنید



On Grid

80 - 125 K



On Grid

250 - 255K



On Grid

350K



بازگشت

تماس با پشتیبانی



DATASHEET

S6-GC(80-125)K

ON GRID

Models	80K	100K	110K	125K	125K-HV
Input DC					
Max. input voltage	1100 V				
Rated voltage	600 V				120 V
Start-up voltage	300 V				
MPPT voltage range	180 - 1000 V				
Max. input current	4 × (42 A / 36 A)	5 × (42 A / 36 A)			
Max. short circuit current	8 × 58 A	10 × 58 A			
MPPT number / Max. input strings number	8 / 35	10 / 30			
Output AC					
Rated output power	90 kW	100 kW	110 kW	125 kW	125 kW
Max. apparent output power	88 kVA	118 kVA	121 kVA	125 kVA	120.5 kVA
Max. output power	98 kW	130 kW	121 kW	115 kW	137.5 kW
Rated grid voltage	3/4/PE, 220 V / 380 V, 230 V / 400 V				3/PE, 400 V
Rated grid frequency	50 Hz / 60 Hz				
Rated grid output current	121.6 A / 113.5 A	152.8 A / 144.3 A	181.1 A / 158.8 A	209.5 A / 380.4 A	150.4 A
Max. output current	133.7 A	167.1 A	183.8 A	209.5 A	185.4 A
Power factor	= 0.99 (0.8 leading - 0.8 lagging)				
THDi	= 3%				
Efficiency					
Max. efficiency	98.7%				
EU efficiency	98.4%				
Protection					
DC reverse polarity protection	Yes				
Short circuit protection	Yes				
Output over current protection	Yes				
Surge protection	DC Type II / AC Type II				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Temperature protection	Yes				
Strings monitoring	Yes				
IV Curve scanning	Yes				
Integrated MPD 2.0	Optional				
Integrated PID recovery	Optional				
Integrated DC switch	Yes				
Integrated AC switch	Optional				
General Data					
Dimensions (W × H × D)	1014 × 567 × 345 mm				
Weight	53 kg	95 kg			
Topology	Transformerless				
Self-consumption (night)	= 2 W				
Operating ambient temperature range	-30 ~ +40°C				
Relative humidity	0 ~ 100%				
Ingress protection	IP66				
Cooling concept	Intelligent fan-cooling				
Max. operation altitude	4000 m				
Grid connection standard	GB, IEC61737, EN50549-1/2, IEC61118				
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4				
Features					
DC connection	MC4 connector				
AC connection	OF terminal (max. 240 mm²)				
Display	LED				
Communication	RS485, Optocoupler, RS-485, GPRS, PLC				

DATASHEET

Solis-(250-255)K-EHV-5G-PLUS

ON GRID

Models	250K		255K	
Input DC				
Max. input voltage			250 V	
Rated voltage			208 V	
Start-up voltage			508 V	
MPPT voltage range			480 ~ 1580 V	
Max. input current			12 × 36 A	
Max. short circuit current			12 × 56 A	
MPPT number / Max. input strings number			12 / 34	
Output AC				
Output power	250 kW@38°C / 235 kW@40°C / 220 kW@50°C		255 kW@30°C / 235 kW@40°C / 228 kW@50°C	
Rated grid voltage			3/PE, 800 V	
Grid voltage range			840 ~ 926 V	
Rated grid frequency			58 Hz / 60 Hz	
Max. output current	180.4 A		194.0 A	
Power factor			= 0.99 (0.8 leading ~ 0.8 lagging)	
THDi			< 3%	
Efficiency				
Max. efficiency			99.8%	
EU efficiency			98.8%	
Protection				
DC reverse polarity protection			Yes	
Short circuit protection			Yes	
Output over current protection			Yes	
Surge protection			DC Type II / AC Type II	
Grid monitoring			Yes	
Anti-islanding protection			Yes	
Temperature protection			Yes	
Strings monitoring			Yes	
UV Curve scanning			Yes	
Night time S0 function			Yes	
Integrated PID recovery			Yes	
Integrated DC switch			Yes	
General Data				
Dimensions (H × W × D)			1125 × 770 × 304 mm	
Weight			113 kg	
Topology			Transformerless	
Self consumption (night)			≈ 2 W	
Operating ambient temperature range			-30 ~ +60°C	
Relative humidity			8 ~ 100%	
Ingress protection			IP66	
Cooling concept			Intelligent fan-cooling	
Max. operation altitude			4080 m	
Grid connection standard			EN50438, GB, AS4771.2, VDE0126, IEC61727, VDE4130, CEA 2013	
Safety / EMC standard			IEC/EN 62109-1/-2, IEC/EN 62038 4-2/4	
Features				
DC connection			MC4 connector	
AC connection			GT terminal (max. 300 mm²)	
Display			LCD	
Communication			RS485, Optional: PLC	

DATASHEET

Models	350K
Input DC	
Max. input voltage	2500 V
Rated voltage	2000 V
Start-up voltage	500 V
MPPT voltage range	480 - 2500 V
Max. input current	6 ± 90 A
Max. short circuit current	6 ± 125 A
MPPT number / Max. input strings number	6 / 30
Output AC	
Rated output power	350 kW
Max. apparent output power	390 kVA
Rated grid voltage	500V, 800V
Grid voltage range	440 - 528 V
Rated grid frequency	50 Hz / 60 Hz
Max. output current	252.6 A
Power factor	+ 0.99 (0.8 leading - 0.9 lagging)
THDi	< 3%
Efficiency	
Max. efficiency	99.8%
EU efficiency	98.7%
Protection	
DC reverse-polarity protection	Yes
Short circuit protection	Yes
Output over current protection	Yes
Surge protection	DC Type II / AC Type II
Grid monitoring	Yes
Anti-islanding protection	Yes
Temperature protection	Yes
Strings monitoring	Yes
UV Curve scanning	Yes
Night time STO function	Yes
Integrated PID recovery	Yes
Integrated DC switch	Yes
General Data	
Dimensions (W × H × D)	3200 × 815 × 333.5 mm
Weight	117 kg
Topology	Transformerless
Self-consumption (night)	< 2 W
Operating ambient temperature range	-30 ~ +60°C
Relative humidity	0 - 100%
Ingress protection	IP66
Cooling concept	Intelligent fan-cooling
Max. operation altitude	4000 m
Grid connection standard	EN50463, IEC 61727, VDE 0126, IEC 61721, VDE 0410, CEA 2019
Safety / EMC standard	IEC 61189-3/2, EN 61800-6-3/4
Features	
DC connection	Matching connector
AC connection	DT terminal (max. 480 mm ²)
Display	LED indicator & Bluetooth + APP
Communication	RS485, Optional PLC



بازگشت

تماس با پشتیبانی



SUNGROW

اینورتر

مدل مورد نظر را انتخاب کنید



On Grid

SG125CX-P2



On Grid

SG150CX



بازگشت

تماس با پشتیبانی



SUNGROW

ON GRID

Type designation	SG125CX-P2
Input (DC)	
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPP voltage range	180 ~ 1000 V
No. of independent MPP inputs	12
No. of PV strings per MPPT	2
Max. PV input current	360 A (30 A * 12)
Max. DC short-circuit current	480 A (40 A * 12)
Max. current for DC connector	20A
Output (AC)	
Max. AC Output power	125 kVA (415 V @ 50 °C) *
Rated AC output apparent power	125 kVA (415 V @ 50 °C) *
Max. AC output current	180.1 A
Rated AC output current(at 230V)	180.1 A
Rated AC voltage	3 / N / PE, 230 / 400 V ; 3 / N / PE, 240 / 415 V
AC voltage range	320 ~ 480 V
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 ~ 55 Hz / 55 ~ 65 Hz
Harmonic (THD)	< 3 % (at rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.9 leading ~ 0.8 lagging
Feed-in phases / connection phases	3 / 3-N-PE
Efficiency	
Max. efficiency / European efficiency	96.5% / 96.3%
Protection	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I + II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string monitoring	Yes
Q at night function	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
General Data	
Dimensions (W*H*D)	1020*750*360 mm
Mounting Method	Wall-mounting bracket
Weight	87 kg
Topology	Transformerless
Degree of protection	IP66
Corrosion	C5
Night power consumption	< 5 W
Operating ambient temperature range	-30 to 60 °C
Allowable relative humidity range (non-condensing)	0 ~ 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (≥ 3000 m derating)
Display	LED, Bluetooth+APP
Optimizer	SP6005 (Optional)
Communication	R5485 / Optional: WLAN, Ethernet
DC connection type	Evo2 (Max. 6 mm ²)
AC connection type	OT / OT terminal (Max. 240 mm ²)
Grid Compliance	IEC 62109-1, EN/IEC 61000-4-1/2/3/4, IEC 61727, IEC 62116, EN 50549-1/2, UTE C15-712-1, VDE V 0136-1-1, VDE-AR-N 4105:2018, VFR 2019, NC RFG, C59, UNE 217002, NTS, CEI 0-21 2019, CEI 0-16 2019, NRS-097-2-1
Grid Support	Q at night function, DVRT, HVRT, active & reactive power control and power ramp rate control



بازگشت

تماس با پشتیبانی



SUNGROW

ON GRID

Type designation	SG150CX
Input (DC)	
Recommended max. PV input power	210 kWp
Max. PV input voltage *	1050 V
Min. PV input voltage / Startup input voltage	180 V / 700 V
Rated PV input voltage	600 V 380 V / 400 V / 415 V / 720 V / 480 V
MPPV voltage range **	180 V ~ 1000 V
No. of independent MPP inputs	7
No. of PV strings per MPP	3 / 3 / 3 / 3 / 3 / 3
Max. PV input current	24.6 A / 48 A * 3
Max. DC short-circuit current	48.2 A / 96 A * 3
Max. current for DC connector	30 A
Output (AC)	
Rated AC output power	150 kW
Max. AC output apparent power	165 kVA
Max. AC output current	250.7 A @ 380 Vac; 240.6 A @ 400 Vac / 415 Vac; 200.5 A @ 480 Vac
Rated AC output current	227.4 A @ 380 Vac; 214.5 A @ 400 Vac / 415 Vac; 180.0 A @ 480 Vac
Rated AC voltage	3 / N / PE, 220 V / 380 V, 230 V / 400 V, 240 V / 415 V, 277 V / 480 V
AC voltage range	320 V ~ 480 V / 380 V / 400 V / 415 V / 380 V ~ 552 V (480 V)
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 Hz ~ 65 Hz / 55 Hz ~ 65 Hz
Harmonic (THD)	≤ 1 % (at 400 V AC voltage and rated power) ≤ 2 % (at 480 V AC voltage and rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.81 leading ~ 0.81 lagging
Feed in phases / AC connection	3 / 3-N-PE
Efficiency	
Max. efficiency	96.9%
European efficiency	96.2% (390 V / 400 V / 415 V); 98.4 % (480 V)
Protection & function	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I+II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string current monitoring	Yes
Intelligent DC arc interrupter	Yes
Arc fault circuit interrupter (AFCI)	Yes
RII recovery function	Yes
ISO compatibility ***	Optional
General data	
Dimensions (W * H * D)	825 mm * 794 mm * 360 mm
Weight	≤ 100 kg
Mounting method	Wall-mounting bracket
Topology	Transformerless
Degree of protection	IP66
Night power consumption	≤ 7 W
Corrosion	C5
Operating ambient temperature range	-30 °C ~ 60 °C
Allowable relative humidity range (non-condensing)	0 ~ 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m
Display	LED, Bluetooth + APP
Communication	RS485 / WLAN (optional) / Ethernet (optional)
DC connection type	EVQ2 (Max. 6 mm)
AC connection type	OT / OT terminal (100~400 mm²)
AC cable specification	Outside diameter 18 mm ~ 38 mm
Grid compliance	IEC EN 62109-1/-2; IEC 60629; IEC 62000-4-1/-2/-3/-4; IEC 62001; CEMC; IEC 62321; EN 50549-1-10/-2-10; IEC 61727; IEC 62196; IEC 61683; EN 50538; IEC 60068-1/-2/-14/-20/-30/-64; IEC/EN 61000-3-11/-12; IEC 62320; VDE4110; VDE4100; PSE 2018; NC RFG; TOR Graeger Typ A; TOR Graeger Typ B; DVC-Richlinie RGS/03.20; D99; CEI 0-16; CEI 0-21; VDE0126; NTS UNE27000/07002; NTS 631; IEC60947-2; IEC 61831; IEC 61832; IEC 61833; IEC 61834; IEC 61835; IEC 61836; IEC 61837; IEC 61838; IEC 61839; IEC 61840; IEC 61841; IEC 61842; IEC 61843; IEC 61844; IEC 61845; IEC 61846; IEC 61847; IEC 61848; IEC 61849; IEC 61850; IEC 61851; IEC 61852; IEC 61853; IEC 61854; IEC 61855; IEC 61856; IEC 61857; IEC 61858; IEC 61859; IEC 61860; IEC 61861; IEC 61862; IEC 61863; IEC 61864; IEC 61865; IEC 61866; IEC 61867; IEC 61868; IEC 61869; IEC 61870; IEC 61871; IEC 61872; IEC 61873; IEC 61874; IEC 61875; IEC 61876; IEC 61877; IEC 61878; IEC 61879; IEC 61880; IEC 61881; IEC 61882; IEC 61883; IEC 61884; IEC 61885; 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IEC 62887; IEC 62888; IEC 62889; IEC 62890; IEC 62891; IEC 62892; IEC 62893; IEC 62894; IEC 62895; IEC 62896; IEC 62897; IEC 62898; IEC 62899; IEC 62900; IEC 62901; IEC 62902; IEC 62903; IEC 62904; IEC 62905; IEC 62906; IEC 62907; IEC 62908; IEC 62909; IEC 62910; IEC 62911; IEC 62912; IEC 62913; IEC 62914; IEC 62915; IEC 62916; IEC 62917; IEC 62918; IEC 62919; IEC 62920; IEC 62921; IEC 62922; IEC 62923; IEC 62924; IEC 62925; IEC 62926; IEC 62927; IEC 62928; IEC 62929; IEC 62930; IEC 62931; IEC 62932; IEC 62933; IEC 62934; IEC 62935; IEC 62936; IEC 62937; IEC 62938; IEC 62939; IEC 62940; IEC 62941; IEC 62942; IEC 62943; IEC 62944; IEC 62945; IEC 62946; IEC 62947; IEC



HUAWEI

اینورتر

مدل مورد نظر را انتخاب کنید



On Grid

SUN2000-115KTL-M2 >



On Grid

SUN2000-330KTL-H2 >



بازگشت

تماس با پشتیبانی



Technical Specification		SUN2002-115KTL-W2
Efficiency		
Max. efficiency		95.7% @48 V, 96.8% @480 V
European efficiency		95.4% @48 V, 96.5% @480 V
Input		
Max. Input Voltage		1,100 V
Max. Current per MPPT		30 A
Max. Current per input		30 A
Max. Short Circuit Current per MPPT		40 A
Start Voltage		220 V
MPPT Operating Voltage Range		200 V ~ 1,000 V
Harmonic Input Voltage		480 V @400 VHz, 720 V @480 VHz
Number of MPPT trackers		10
Max. Input number per MPPT tracker		2
Output		
Harmonic AC Active Power		115,000 W
Max. AC Apparent Power		125,000 VA
Max. AC Active Power (single-1)		125,000 W
Harmonic Output Voltage		400 V / 480 V, 2Ph+1N+PE
Rated AC Grid Frequency		50 Hz / 60 Hz
Harmonic Output Current		166.6 A @480 V, 130 A A @480 V
Max. Output Current		167.1 A @480 V, 131 A A @480 V
Adjustable Power Factor Range		0.8 leading ~ 0.8 lagging
Max. Total Harmonic Distortion		< 3%
Protection		
Input-side Disconnection Device		Yes
Anti-Islanding Protection		Yes
AC Overcurrent Protection		Yes
DC Reverse-polarity Protection		Yes
PPV or up String Fault Monitoring		Yes
DC Surge Arrester		Type II
AC Surge Arrester		Type II
DC Insulation Resistance Detection		Yes
Residual Current Monitoring (RCD)		Yes
Smart String Level Disconnect		Yes
Communication		
Display		LED indicators; WLAN adaptor + FusionSolar APP
RS485		Yes
USB		Yes
Smart Dongle (4G)		Smart Dongle + 4G / WLAN (Optional)
Monitoring Data (WIFI)		Yes (stationary transformer required)
General Data		
Dimensions (H x W x D)		1,000 x 800 x 360 mm
Weight (with mounting plate)		91 kg
Operating Temperature Range		-25°C ~ 40°C
Cooling Method		Smart Air Cooling
Max. Operating Wind speed		4.80km/h (11.115 ft/s)
Relative Humidity		0 ~ 100%
DC Connector		Amphenol HHD45 HD
AC Connector		Waterproof Connector + 25/30° Terminal
Protection Degree		IP66
Topology		Three-inverting
High-line Power Consumption		< 3.5 W
Standard Compliance (more available upon request)		
Certification		EN 60947-1, EN 60947-2, EN 61000-6-2, EN 61000-6-4, IEC 61000-6-2, IEC 61000-6-4, IEC 61646, IEC 61727, IEC 62109-1, IEC 62109-2
Grid Connection Standard		VDE 0471/720, IEC 61851-1, IEC 61851-2, IEC 61851-3, IEC 61851-4, IEC 61851-5, IEC 61851-6


بازگشت
تماس با پشتیبانی


Efficiency	
Max. Efficiency	≥ 96.0%
European Efficiency	≥ 96.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosφ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	240.3 A
Adjustable Power Factor Range	0.8 LG ~ 0.8 LD
Total Harmonic Distortion	THD ≤ 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 732 x 355 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH45MM4TMSPA / HH45PM4TMSPA
AC Connector	Support DT / DT Terminal (Max. 400 mm²)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62520, IEC 60947-2, EN 50549-2, IEC 61683, etc.	


بازگشت
تماس با پشتیبانی




باتری LFP

برند مورد نظر را انتخاب کنید

 GROWATT



 DYNES



بازگشت

تماس با پشتیبانی



باتری LFP GROWATT

مدل مورد نظر را انتخاب کنید



HOPE 5.0L-B1



HOPE 5.0LW-B1



HOPE 16.0LM-A1



بازگشت

تماس با پشتیبانی



GROWATT

Datasheet	Hope 5.0L-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 60.4V
Max. discharging current	180A
Peak discharging current	258A/150ms
Max charging current	180A
General data	
Dimension (HxDxW)	440/480/138.5mm
Weight	42±2Kg
IP protection	IP30
Charge temperature	0°C~+55°C
Discharge temperature	-20°C~+55°C
Features	
DOD	98%
Cycle life	>6000 (25°C, 0.3C)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
CE,EMC, UN 38.3, MSD, RoHS	

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC

GROWATT

Datasheet	HOPE 5.0LW-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	105A
Peak discharging current	750A/5ms
Max charging current	105A
General data	
Dimension (WxDH)	280*152*426
Weight	<44.5kg
IP protection	IP20
Charge temperature	0°C~+55°C
Discharge temperature	-20~+55°C
Installation	Wall-mounted
Features	
DOD	92%
Cycle life	>4800 (80% DOD, 25°C)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
E00281NCEBEMCAUN06.3MSDS/ROHS	

GROWATT

Datasheet		HOPE 16.0LM-A1
System data		
Battery type		LiFePO4
Nominal voltage		51.2V
Nominal capacity		160Ah
Usable capacity		15.36Ah
Operating voltage		40-58.4V
Max. Charge/Discharge current		118A/200A
Peak charging/ discharging current		700A/200A
DOB		95%
General		
Dimension(W*H*D)		440*184*266mm
Weight		128.12kg
Installation		Free-standing
Altitude		<3000m
IP Protection		IP54
Operating temperature		Chg: 0~45°C; Disg: -20 ~ 45°C
Storage temperature*		-20 ~ 45°C
Features		
Cycle life		4800 cycles, 80% DOD, 25°C
Cooling		Natural convection
System connection		Max. 48 pins in parallel
Communication port		CAN/RS485
Warranty: System / 10 years		Yes / Optional
DISMIS UNBIL, MISC, RCHS, BGA2M P		

باتری LFP DYNES

مدل مورد نظر را انتخاب کنید



DL5.0C PRO



POWERBRICK 14.3



بازگشت

تماس با پشتیبانی



DYNES

Model	DLS0C Pro
Battery Type	LiFePO ₄
Nominal Battery Energy	512kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Operating Voltage	44.8-57.6V
Recommended Charge & Discharge C Rate	0.5C
Maximum Discharge C Rate	1C
Recommended Charge/Discharge Current	50A
Max. Charge/Discharge Current	Charge 75A, Discharge 100A
Peak Discharge Current	190A@5min
Depth of Discharge (DOD)	95%
Net Weight	48kg
Dimension (R/G/H)	480/165/150mm
Charging Temp. Range	0-55°C/-20-55°C (with heating function)
Discharging Temp. Range	-20-55°C
Communication	CAN/RS485
BMS Module	Built-in BMS module, APP OTA function
Cycle Life*	>6000 Cycles
Protection Level	IP20
Active fire protection system	Optional Aerosol fire extinguisher
Expansion	Up to 50 units in parallel
Pros	Can be used in both off-grid and hybrid setups, compact design
Certification & Safety Standard	UN38.3/CE-EMC/IEC60361/CE-RED
Compatible Inverters	SMA/Schneider/Victor energy/Epriem/Solar/Goodway/Gowatt/Solarman/Auxpower/DEW/Any system etc.



بازگشت

تماس با پشتیبانی



DYNES

Model	PowerBrick
Battery Type	LiFePO ₄
Nominal Battery Energy	14.33kWh
Nominal Voltage/Capacity	51.2V/280Ah
Recommended Charge/Discharge Current	140A (0.5C)
Max. Charge Current	200A
Max. Discharge Current	200A
Depth of Discharge	88%
Communication	CAN/RS485
Cycle Life *	Unlimited cycles / 10 Years
Protection Level	IP20
Net Weight	114kg
Dimension(WxHx)	435/233/857mm (No wall-mounted bracket)
Maximum Parallel Modules	80
Charging Temp. Range	0~55°C
Discharging Temp. Range	-20~55°C
WiFi Module	Built-in WiFi module, APP OTA function
Fire Protection System	Optional Aerosol fire extinguisher
Certification & Safety Standard	UN38.3/CE-EMC/IEC62038/GOST-R
Compatible Inverters	SMA/Schneider/Victron energy/Hogreen/Solu/Goodrive/Growatt/Solarplaner/DOFA/SAA/DEYE etc.



بازگشت

تماس با پشتیبانی



حسگر سنجش کارایی



NV-SMC01

مشاهده اطلاعات



بازگشت

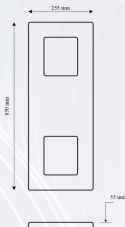
تماس با پشتیبانی



- ابزاری دقیق برای اندازه‌گیری کاهش راندمان پنل‌های خورشیدی به دلیل گرد و غبار
- طراحی بومی با قابلیت مقایسه پنل مرجع تمیز و پنل آلوده
- دارای پاک‌سازی خودکار سلول مرجع، اتصال Wi-Fi و RS-485
- نصب سریع و عملکرد پایدار در نیروگاه‌های خورشیدی

SPECIFICATIONS

Soiling Measurements	- Daily soiling loss (% of daily insolation loss) - Soiling rate (moving average, % loss/day) - Soiling ratio (IEC standard 61724-1) - Transmission loss (% instantaneous)
Irradiance	0 - 2000 W/m ² , $\pm 0.5\%$, temperature correction
Power and Battery	Solar powered, 3000 mAh extended temperature Lithium-Ion chemistry
Data Connection	Modbus RTU (over RS-485)
Data Retrieval	WiFi (Password Protected), Modbus (Micro SD Archiving Available for 10 Years)
Reference Cell	Polycrystalline cell, solar glass with standard ARC coating, white backsheet, EVA encapsulant
Self-Calibration	Easy 1x / year, on-site, OTA or local Modbus. No off-site lab calibration required.
Mechanical Load Rating	+/- 2400 Pa for wind +5400 Pa for snow loading
Enclosure IP Rating	IP66
Cleaning System	1x SS spray nozzles, 60psi max, 100 Ltr. reservoir with pump available (Wash Extension accessory)
Mounting Holes	(6) 1/4"-20 brass inserts
Dimensions	850 x 255 x 55 mm (L x H x D)
Weight	15 kg
Electronic Temp. Range	-20°C to +75°C
Warranty	3 Years
Accessories	- Wash Extension with Tank Level Sensor - Purlin Bracket Kit



- جلوگیری از افت راندمان ۴۰ درصدی پنل‌ها در اثر آلودگی
- افزایش عمر اقتصادی و کاهش فرسایش سطحی پنل‌ها با تعیین زمان بهینه شست‌وشو
- مدیریت هوشمند نگهداری نیروگاه‌های خورشیدی، با ثبت و تحلیل داده‌های تولیدی
- مناسب برای پروژه‌های صنعتی، مگاواتی و پژوهشی
- عملکرد دقیق، قابل اعتماد و منطبق با استاندارد IEC 61724-1

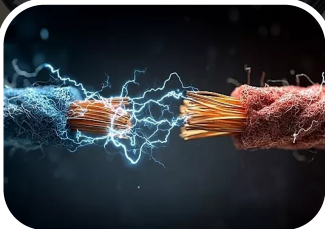


بازگشت

تماس با پشتیبانی



کابل های DC



JINQISOLAR

مشاهده اطلاعات



بازگشت

تماس با پشتیبانی



کابل JINQISOLAR

مدل مورد نظر را انتخاب کنید



JINQISOLAR 1x4mm² >



JINQISOLAR 1x6mm² >



بازگشت

تماس با پشتیبانی



IEC 62930 1x4.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 56/0.28mm (min)0.27mm max0.28mm
Stranded OD	3.46 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.0±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	5.7±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1+4mm ² DC1500V HALOGEN FREE LOW SMOKE JINGJI SOLAR PTE. LTD. B 132888

1x4.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20°C	≤5.8Ω/KM
Insulation resistance at 20°C	≥700 MΩ·Km
Insulation resistance at 90°C	≥0.705MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min, No break
DC Voltage test of insulation	1800V, 240h (85°C, 10g/LNaCl) No break
Tensile strength of insulation	≥8Mpa
Elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
Elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811-403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40°C, 16h) Winding at low temperature	IEC 60811-504
-40°C, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1, IEC 60216-2, T1130

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC-DC1500V
Working temperature	-40~90°C
Max. conductor temperature	120°C
Short circuit temperature	250°C @ 6s
Bending radius	6xD
Life Period	≥25 years

Current Rating Ambient Temperature: 30°C

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	57A	54A	45A



بازگشت

تماس با پشتیبانی



IEC 62930 1x6.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 84/5.28mm (nix6.27mm nix6.29mm)
Stranded OD	2.96 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.6±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/red
OD	6.3±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1x6mm2 DC1500V HALOGEN FREE LOW SMOKE JING SOLAR PTE. LTD. B 133886

1x6.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20°C	≤3.28Ω/KM
Insulation resistance at 20°C	≥610 MΩ·Km
Insulation resistance at 90°C	≥0.610 MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min, No break
DC voltage test of insulation	1800V, 240h (95°C, 10g/LNaCl) No break
Tensile strength of insulation	≥8Mpa
elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811-403/EN50288-4.1.2
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-50°C, 16h) Winding at low temperature	IEC 60811-554
-40°C, 16h) Impact at low temperature	IEC 60811-556
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1, IEC 60216-2, TH20

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC-DC1500V
Working temperature	-40~90°C
Max. conductor temperature	125°C
Short circuit temperature	250°C @ 5S
Bending radius	6xD
Life Period	≥25 years

Current Rating Ambient Temperature: 30°C

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	72A	69A	56A

Approval: IEC62930

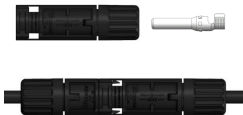


بازگشت

تماس با پشتیبانی



کانکتور



Trinasolar

مشاهده اطلاعات



بازگشت

تماس با پشتیبانی



TS4 Plus Connector Specifications

Product Name	TS4 Plus
Certified name	TS4-cd (c=1; d=1 or 2)
Rated voltage	IEC 1500V&UL 1500V
Rated current @IEC (85°C)	41A (4.0mm ² / 12AWG) 46A (6.0mm ² / 10AWG)
Rated impulse voltage	16KV
Ambient temperature range	-40°C ~ +85°C
Contact resistance	≤0.5mΩ
Application degree	Class A
Protection class	Class II
Pollution degree	2
Degree of protection	IP68 (1m, 1h) mated IP2X unmated
Flame class	UL94-V0
Insulation material	m-PPE/PA
Contact material	Copper, Tin-plated
Type of termination	Crimping
Locking system(UL)	Locking type
TUV/IEC62852	R50508240/R50385924
UL,UL6703	E486009

Product Selection Form

Type	P/N	Cable OD	Conductor Cross Section		Tool P/N		
			mm	mm ²	AWG	Wire Stripper P/N	Rivet Plier P/N
		TS4 Plus-F1	7A004669	4.7-6.0	4.0/6.0	12/10	7A001039
TS4 Plus-M1	7A004670						
TS4 Plus-F2	7A004671	5.6-6.8	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M2	7A004672						
TS4 Plus-F3	7A004673	6.0-7.2					
TS4 Plus-M3	7A004674						



بازگشت

تماس با پشتیبانی



استراچر



FIXED BRACKET

مشاهده اطلاعات



بازگشت

تماس با پشتیبانی





Easy Adjustment

- **Push-Rod Operation - Quick Locking:** Ground push-rod operation allows fast adjustment and reliable locking.



Stable Structure

- **Triangular Locking - Superior Wind Resistance:** Triangular stable structure provides wind resistance comparable to fixed mounts.



Reliable Locking

- **Pin Fastening - No Loosening Risk:** Mechanical pin locking ensures no loosening.



Easy Operation & Maintenance

- **Durable - Low Maintenance:** Simple and durable design reduces O&M costs.

System Parameters

Tracking Type	2X14
Tilt Adjustment Range	15°-50°
Drive Type / Quantity	4 Push Rods
Protection Strategy	E-W: 5° (max); N-S: Unrestricted
Foundation Options	PHC pile
Structural Materials	Hot dipped galvanized/ZAM high-strength steel
Design Wind Load	0.45kN/m ² 25years
Design Snow Load	0.46kN/m ² 25years
Module Compatibility	Compatible with all types of module



بازگشت

تماس با پشتیبانی





solis

پست کمپکت

مدل مورد نظر را انتخاب کنید



Solis-6500-MV



Solis-4550-MV



Solis-9100-MV



بازگشت

تماس با پشتیبانی



DATASHEET

Solis-6500-MV

Models	Solis-6500-MV
CP panel	
MCCB specification	400 A / 800 Vac / 3P, 10 + 2 p.c.s
ACB specification	3200 A / 800 Vac / 3P, 5 + 2 p.c.s
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	6300 kVA @ 40°C
Max. output power	7000 kVA @ 30°C
Output voltage	0.6/10 / 10 - 35 kV
Max. input current	2526 A x 2
Tapping on HV	42 + 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (x 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulator	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	6300 A
Interval arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
W surge protection	AC type1 + II
AC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General data	
Dimensions (W x H x D)	6000 x 2000 x 2400 mm
Approximate weight	21 T
Operating ambient temperature range	-25 - +40°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 10 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 30)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS-485, Ethernet, Optical fiber
Compliance	IEC 60271, IEC 62271, IEC 61810

DATASHEET

Solis-4550-MV

Models	Solis-4550-MV
LT panel	
MCCB specification	400 A / 100 IEC / 3P, 34 pcs
ICB specification	4000 A / 800 IEC / 3P, 1 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	4550 kVA @ 40°C
Max. output power	4900 kVA @ 30°C
Oil/MV voltage	0.8 MV / 38 - 35 kV
Max. input current	2526 A
Tapping in MV	12 ± 2.5%
Rectifier group	Dy11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	9% (± 0.2%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 48.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LT surge protection	AC type I + II
IC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W*H*D)	8000 ± 2000 ± 2400 (mm)
Approximate weight	35.6 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000m
Auxiliary power supply	5 kW / 220 V (Optional: max. 50 kW)
UPS	1.0 MW 30 min (Optional: max. 2 MW 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-M (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Fiber-optic, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC 61850



بازگشت

تماس با پشتیبانی



DATASHEET

Solis-9100-MV

Models	Solis-9100-MV
QV panel	
MOCP specification	408 A / 880 V _{ac} / 3P, 34 × 2 pcs
MOB specification	408 A / 800 V _{ac} / 3P, 1 × 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	3300 kW @ 40°C
Max. output power	8800 kW @ 80°C
LV / MV voltage	0.69 kV / 10 – 35 kV
Max. input current	3550 A × 2
Tapping in kV	±2 × 2.5%
Vector group	Dy11y12
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	0.3% (±0.2%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	F
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulator	SF6 (Optional: SF6-free)
Rated voltage	12 – 48.5 kV
Rated current	630 kA
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
UV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W × H × D)	6258 × 2896 × 2408 mm
Approximate weight	23.5 T
Operating ambient temperature range	-35 ~ +60°C
Max. operation altitude	2088 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA, 30 min (Optional: max. 2 kVA, 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C4-M)
Allowable relative humidity range	0 ~ 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60810, IEC 62211, IEC 61410



بازگشت

تماس با پشتیبانی





دفتر مرکزی: تهران، خیابان دولت، پلاک ۳۰۸، ساختمان پارامیس، واحد ۲۰۳، ۳۰۴، ۶۰۴
واحد R&D: تهران، نارمک، خیابان شهید ملک لو، خیابان شهید حیدر خانی، دانشگاه علم و صنعت



دفتر مرکزی: ۰۲۱-۲۱۰۰۰۴۷۷
واحد R&D: ۰۲۱-۷۳۲۲۵۶۱۳



Info@noura-tech.com

استعلام و سفارش گذاری خرید



بازگشت



توجه

در صورت غیر فعال بودن دکمه‌ها در سیستم عامل اندروید،
حتما اپلیکیشن GoogleDrive خود را به روزرسانی نمایید.

If the buttons are disabled in the Android system,
Be sure to update your Google Drive app.

زبان مورد نظرتان را انتخاب نمایید:

Select **your language**:

فارسی



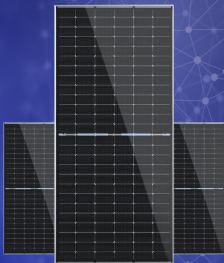
English



شروع

A large, white, circular button with a subtle 3D effect and a drop shadow, centered over a field of yellow flowers. The word "START" is written in a bold, black, sans-serif font in the center of the button.

START



| About Us



| Products



| Contact Us



Digi-Catalog / 2026



Pishgaman Energy Nouratech Company, relying on expert human capital and the support of prominent professors from the country's leading universities, is a specialized reference for supplying and providing solar energy equipment and products in the country. Nouratech, with the design, consulting, and implementation of more than 38 MW of solar power plant projects, as well as the supply and distribution of more than 290 MW of solar panels and 210 MW of inverters from reputable global brands, is among the largest suppliers of solar energy equipment in the country and offers high-efficiency, dedicated solutions for various industries, numerous businesses, residential and office complexes and houses, villas, etc.

- Design, consulting and implementation of solar power plants (EPC)
- Supply of equipment: various types of panels, inverters, structures and lithium batteries
- Design and implementation of On-Grid, Off-Grid and hybrid systems supervision, and complete commissioning of projects



38 MW

Volume of photovoltaic power plant projects



210 MW

Supply and sales volume of various inverters



290 MW

Solar panel supply and sales volume

[Key Persons](#)

[Back](#)

[Awards and certificates](#)

[Business partners](#)



NouraTech, in pursuing its objectives in the fields of energy, technology, and sustainable infrastructure development, is proud to cooperate with some of the most reputable organizations and companies in the country. Strategic collaborations with institutions such as SATBA (Renewable Energy and Energy Efficiency Organization of Iran), SATKA (Association of Manufacturers and Suppliers of Renewable Energy Products and Services) and Goldiran Logistics Company have played a significant role in enhancing service quality, expanding the supply network, and accelerating project execution. NouraTech regards these partnerships as a valuable asset and continuously seeks to develop these relationships based on mutual trust, accountability, and the creation of shared value.

[Back](#)





CEO: Hessam Kazari

PhD, Electrical Power Engineering, Sharif University of Technology

Faculty member, Iran University of Science and Technology

Visiting Researcher, Imperial College London

Founder, shareholder and consultant of 3 knowledge-based companies (in the electricity and energy industry)

Chairman of the Board: Hamed Najafi

PhD in Economics, Allameh Tabatabaei University

Lecturer, Faculty of Management, University of Tehran

Founder, CEO and shareholder of Mabna Company

Owner and operator of a 14 MW solar power plant in the Payam Special Economic Zone

Vice Chairman of the Board: Abbass KhaleghiTabar

DBA, University of Tehran

Director of Planning, Trade Development Organization Of Iran

CEO, Business Training Center of IMI Ministry of Iran

President, University of Applied Sciences and Technology, Commerce Branch

Director, DBA Program, University of Tehran



Back

Board Member: Fatemeh Seyyed Salehi

PHD, Artificial Intelligence, Sharif University of Technology

Visiting Scholar, UC Berkeley

Faculty member, Sharif University of Technology

AI Consultant, Mci Company

AI Consultant, Refah Bank

Other Colleagues:

cooperation with more 23 professional managers and experts in the fields of consulting, design, supply, sales, installation, commissioning and after-sales service in the entire chain of solar products and equipment.



Back

Product Selection:



LFP Battery



Inverter



Solar Module



Accessories



DC Cable



Soiling Loss
Measurement



Structure



MV Station

Coming Soon ...



Back

Contact support





Solar Module

Brand Selection:

JinkO Solar



Trinasolar



Back

Contact support



 Jinko Solar

Class Selection:

Utility / 700⁺ W



Industrial / 600⁺ W



Household / 400⁺ W



Back

Contact support



Tiger Bifacial 450-470 Watt

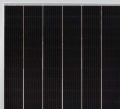
Tiling Ribbon (TR) Technology

Positive power tolerance of 0~+3%

ISO9001:2015, ISO14001:2015, ISO45001:2018 certified factory

IEC61215, IEC61730 certified product

N-Type



KEY FEATURES



TR technology + Half Cell

TR technology with Half cell aims to eliminate the cell gap to increase module efficiency (mono-facial up to 20.65%)



Low Light Induced Degradation

The N-type cell shows extremely low light induced degradation (LID) performance when comparing with the P-type cell.



9BB instead of 5BB

9BB technology decreases the distance between bus bars and finger grid line which is benefit to power increase.



Higher Lifetime Power Yield

1% first year degradation,
0.4% linear degradation



Best Warranty

15 year product warranty,
30 year linear power warranty



Better low-light performance

Excellent performance in low-light environments
(e.g. early morning, dusk, and cloud, etc.)



Severe Weather Resilience

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty 30 Year Linear Power Warranty
0.4% Annual Degradation Over 30 years

■ N-Type performance warranty
■ P-Type performance warranty

-0.4%

30-year Power
Warranty Annual
Power Attenuation
0.4%

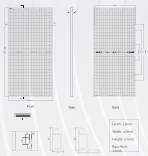


Back

Technical Specifications

JinkO Solar

Engineering Drawings



Packaging Configuration

(Two pallets + One stack)

370pcs/pallets, 820pcs/stack, 620pcs/ 40HQ Container

Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (AM1.5G)



Temperature Dependence of Isc, Voc, Pmax



Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	156 (2x78)
Dimensions	2205±10L±25mm (86.81±0.83±1.00 inch)
Weight front	25.0 kg (55.12 lbs)
Glass	3.2mm Anti-Reflective Coating, High Transmittance, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	3x2.5 T+L 0.9mm ² (1~) 200mm, 1~ 150 mm or Customized Length

SPECIFICATIONS

Module Type	JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM650N-TRL3-TV		JKM670N-TRL3-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	4700Wp	3200Wp	4700Wp	3200Wp	4700Wp	3200Wp	4700Wp	3200Wp	4700Wp	3200Wp
Maximum Power Voltage (Vmp)	43.60V	40.00V	43.60V	40.00V	43.60V	40.00V	43.60V	40.00V	43.70V	40.47V
Maximum Power Current (Imp)	10.80A	8.00A	10.80A	8.00A	10.80A	8.00A	10.80A	8.00A	10.76A	8.00A
Open-circuit Voltage (Voc)	51.70V	48.80V	51.70V	48.80V	51.70V	48.80V	52.00V	49.00V	52.10V	49.10V
Short-circuit Current (Isc)	11.01A	8.86A	11.06A	8.92A	11.20A	9.08A	11.34A	9.16A	11.43A	9.23A
Module Efficiency STC (%)	19.78%		20.00%		20.21%		20.43%		20.68%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (60C)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficient of Pmax	-0.34%/°C									
Temperature coefficient of Voc	-0.28%/°C									
Temperature coefficient of Isc	0.045%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									
Refer. Bifacial Factor	80±5%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

	STC	NOCT	STC	NOCT	STC	NOCT
9%	Maximum Power (Pmax)	4700Wp	4700Wp	4700Wp	4700Wp	4700Wp
	Module Efficiency STC (%)	19.78%	20.00%	19.78%	20.00%	20.00%
18%	Maximum Power (Pmax)	5100Wp	5100Wp	5100Wp	5100Wp	5100Wp
	Module Efficiency STC (%)	21.14%	21.14%	21.14%	21.14%	21.14%
30%	Maximum Power (Pmax)	5850Wp	5850Wp	5850Wp	5850Wp	5850Wp
	Module Efficiency STC (%)	23.71%	23.71%	23.71%	23.71%	23.71%

* STC: Irradiance 1000W/m²

Cell Temperature 25°C

AM=1.5

NOCT: Irradiance 800W/m²

Ambient Temperature 20°C

AM=1.5

Wind Speed 1m/s

Power measurement tolerance ± 3%

The company reserves the final right for explanation on any of the information presented hereby. TR-JKM650-470N-TRL3-TV-A1-1-GN



Back

Contact support



JinkO Solar TIGER Neo



66HL4M-BDV

605-630 Watt

BIFACIAL MODULE WITH DUAL GLASS

N-type



N-type Technology

N-type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LeTID degradation and better low light performance.



HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.



Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

12 Year | 30 Year | 1% | 0.40%

- IEC61215:2021 / IEC61730:2023
- IEC61731 / IEC62716 / IEC60068 / IEC62884
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems



SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.



JKM605-630N-66HL4M-BDV-F3-EN



Back

Technical Specifications

Mechanical Characteristics

Cell Type	N-type Mono-crystalline
No. of cells	132 (66×2)
Dimensions	2382×1134×30 mm
Weight	32.4 kg
Front Glass	2.8 mm, Anti-reflection Coating
Back Glass	2.8 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	J&O3M/MCA/Others
Output Cables	4.6 mm ² (+): 480 mm, (-): 208 mm or Customized Length

Packaging Configuration

Pallet Dimensions	2396×1116×1253 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, (Two pallets = One stack)
	720 pcs/40'HQ Container

Specifications (STC)

Maximum Power - P _{max} [Wp]	665	610	615	628	625	630
Maximum Power Voltage - V _{mp} [V]	48.31	48.46	48.60	48.74	48.88	49.02
Maximum Power Current - I _{mp} [A]	15.81	15.08	15.15	15.22	15.29	15.36
Open-circuit Voltage - V _{oc} [V]	48.48	48.68	48.88	49.08	49.28	49.48
Short-circuit Current - I _{sc} [A]	15.90	15.96	16.02	16.08	16.14	16.20
Module Efficiency STC (%)	22.40	22.58	22.77	22.95	23.14	23.32
Power Tolerance	0 ~ +3 %					
Temperature Coefficients of P _{max}	-0.29 %/°C					
Temperature Coefficients of V _{oc}	-0.25 %/°C					
Temperature Coefficients of I _{sc}	0.045 %/°C					

STC Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNP)

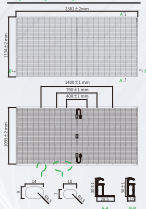
Maximum Power - P _{max} [Wp]	668	674	679	685	690	696
Maximum Power Voltage - V _{mp} [V]	48.29	48.46	48.59	48.75	48.88	49.04
Maximum Power Current - I _{mp} [A]	16.58	16.95	16.73	16.80	16.88	16.95
Open-circuit Voltage - V _{oc} [V]	48.46	48.66	48.86	49.06	49.26	49.46
Short-circuit Current - I _{sc} [A]	17.56	17.64	17.70	17.77	17.83	17.90

BNP Irradiance from 1000W/m² near 1200W/m², Cell Temperature 25°C, AM=1.5

Application Conditions

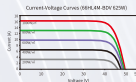
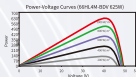
Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficient	q _{Voc} : 58 ± 5 %, q _{Isc} : 68 ± 5 %, q _{Pmax} : 80 ± 5 %

Engineering Drawings



Note: For specific dimensions and tolerances, please refer to the corresponding detailed module drawings.

Electrical Performance



Back

Contact support



Jinko Solar TIGER Neo

66HL5-BDV

710-735 Watt

BIFACIAL MODULE WITH DUAL GLASS

N-type



N-type Technology

N-type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LeTID degradation and better low light performance.



HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.



SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load



Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.



12 Year Powermax | 30 Year Powermax | 1% Degradation | 0.40% Powermax Loss

- IEC61215-2012 / IEC61730-2025
- IEC61701 / IEC62716 / ISO9806 / IEC62894
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems



JKM710-735N-66HL5-BDV-23-EN



Back

Technical Specifications

Mechanical Characteristics

Cell Type	Hi-type Mono-crystalline
No. of cells	132 (66×2)
Dimensions	2384×1303×33 mm
Weight	32.5 kg
Front Glass	2.0 mm, Anti-Reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JKR3M/JKR3M2/Others*
Output Cables (Including Connector)	4.0 mm ² [H]: 400 mm, [L]: 200 mm or Customized Length

* M04 and M04-EVO2 available upon request and subject to availability

Packaging Configuration

Pallet Dimensions	1325×1123×2486 mm
Packing Detail (Two pallets = One stack)	33 pcs/pallets, 994 pcs/ 40 HQ Container

Specifications (STC)

	T10	T15	T20	T25	T30	T35
Maximum Power - P _{max} [Wp]	710	715	720	725	730	735
Maximum Power Voltage - V _{mp} [V]	48.65	48.77	48.89	49.06	49.11	49.23
Maximum Power Current - I _{mp} [A]	12.47	12.54	12.61	12.69	12.76	12.83
Open-circuit Voltage - V _{oc} [V]	48.73	48.88	49.04	49.20	49.36	49.52
Short-circuit Current - I _{sc} [A]	18.53	18.60	18.67	18.74	18.81	18.88
Module Efficiency STC [%]	22.85	23.02	23.18	23.34	23.50	23.66
Power Tolerance	0 ~ +3 %					
Temperature Coefficient of P _{max}	-0.23 %/°C					
Temperature Coefficient of V _{oc}	-0.25 %/°C					
Temperature Coefficient of I _{sc}	0.945 %/°C					

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNPL)

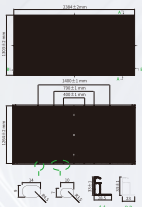
	T84	T90	T95	800	805	810
Maximum Power - P _{max} [Wp]	40.68	40.80	40.92	41.03	41.14	41.25
Maximum Power Voltage - V _{mp} [V]	19.28	19.36	19.43	19.50	19.57	19.64
Maximum Power Current - I _{mp} [A]	15.28	15.35	15.43	15.50	15.57	15.64
Open-circuit Voltage - V _{oc} [V]	48.73	48.85	48.99	49.12	49.25	49.38
Short-circuit Current - I _{sc} [A]	20.48	20.55	20.63	20.71	20.79	20.87

BNPL: Irradiance from 1000W/m², angle 120°(90°), Cell Temperature 25°C, AM=1.5

Application Conditions

Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficients	qRsc: 95±5 %, qLsc: 80±5 %, qPmax: 80±5 %

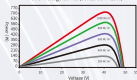
Engineering Drawings



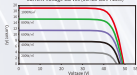
* Refer for specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance

Power-Voltage Curves (6HL5-BDV T35W)



Current-Voltage Curves (6HL5-BDV T25H)



Back

Contact support





TrinaSolar

Class Selection:

Utility / 700⁺ W



Industrial / 600⁺ W



Household / 400⁺ W



Back

Contact support



Vertex S+

DUAL GLASS N type i-TOPCon MODULE

PRODUCT: TSM-MEG9R.28

POWER RANGE: 425-450 W

450 W

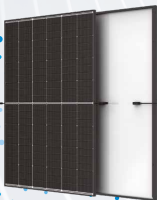
MAXIMUM POWER OUTPUT

0/+5 W

POSITIVE POWER TOLERANCE

22.5 %

MAXIMUM EFFICIENCY



Small in size, bigger on power

- Generates up to 450 W, 22.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Reduces installation cost with higher power bin and efficiency



Dual-glass Design, High Reliability

- Excellent fire rating and resistance to harsh environmental conditions
- 5,400 Pa snow load and 4,000 Pa wind load (test loads)



Maximize Energy Harvest

- Up to 25 years product warranty and 30 years power warranty
- 1 % first-year degradation and 0.4 % annual degradation enabled by N-type technology



Universal solution for residential and C&I rooftops

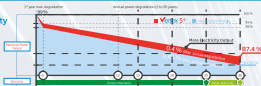
- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling, Optimized transportation cost
- Flexible installation solutions for system deployment

Extended Vertex S+ Warranty

1 %
1st year max degradation

0,4 %
Max. annual degradation from year 2 to 30

25 Years
Product Worked up to 30 years

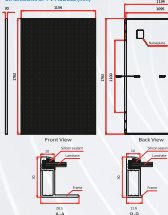


Back

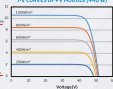
Technical Specifications

Vertex S⁺

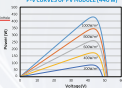
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (440 W)



P-V CURVES OF PV MODULE (440 W)



ELECTRICAL DATA (STC)	TSM-432 1600W/24	TSM-430 1600W/24	TSM-435 1600W/24	TSM-440 1600W/24	TSM-445 1600W/24	TSM-450 1600W/24
Peak Power (Watts-P _{max}) (W)	425	430	435	440	445	450
Power Tolerance-P _{max} (W)	0/+5					
Maximum Power Voltage-V _{mp} (V)	42.9	43.2	43.5	44.8	44.3	44.6
Maximum Power Current-I _{mp} (A)	9.92	9.96	9.99	10.01	10.05	10.09
Open Circuit Voltage-V _{oc} (V)	52.9	53.4	53.8	55.2	54.8	55.0
Short Circuit Current-I _{sc} (A)	10.96	10.99	11.04	11.07	11.11	11.14
Module Efficiency- η (%)	21.3	21.5	21.8	22.0	22.3	22.5

STC: irradiance 1000W/m², cell temperature 25°C, air mass 1.5, reference spectrum AM1.5G

ELECTRICAL DATA (NOCT)	TSM-432 1600W/24	TSM-430 1600W/24	TSM-435 1600W/24	TSM-440 1600W/24	TSM-445 1600W/24	TSM-450 1600W/24
Maximum Power-P _{max} (W)	326	328	332	335	339	343
Maximum Power Voltage-V _{mp} (V)	40.0	40.4	40.7	41.0	41.3	41.6
Maximum Power Current-I _{mp} (A)	8.09	8.11	8.15	8.17	8.20	8.24
Open Circuit Voltage-V _{oc} (V)	49.2	49.7	50.1	50.6	50.8	51.1
Short Circuit Current-I _{sc} (A)	8.51	8.53	8.57	8.60	8.63	8.65

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	244 cells
Module Dimensions	1782*1134*30mm
Weight	21.0kg
Front Glass	3.2mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	1.5mm, Heat Strengthened Glass
Frame	30mm Anodized Aluminum Alloy, Black
J-Box	6*50mm
Cable	Photovoltaic Technology Cable 4.0 mm ² Length: 1100/1150 mm Pitch: 280/300mm
Connector	TSM-1604-B001*

*See instruction

TEMPERATURE RATINGS

NOCT (nominal operating cell temperature)	43°C (cell C)
Temperature Coefficient of P _{max}	-0.30 %/K
Temperature Coefficient of V _{oc}	-0.24 %/K
Temperature Coefficient of I _{sc}	0.04 %/K

MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500VDC (IEC)
Max Series Fuse Rating	20A

WARRANTY

25-year Product Workmanship Warranty
10-year Power Warranty
1% first-year degradation
0.4 % Annual Power Attenuation

PACKAGING CONFIGURATION

Modules per box	30 pieces
Modules per 40HQ container	930 pieces



Back

Contact support



Vertex N TrinaSolar

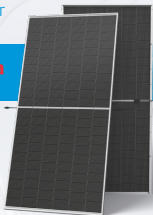
N-type i-TOPCon Ultra

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG19RC,20 620-645W

645W / MAXIMUM POWER OUTPUT

23.9% / MAXIMUM EFFICIENCY



High customer value

- Best partner of 3P tracker, with highest utilization of tracker length
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 1%~5%
- Standardized module size with higher container space utilization effectively reduces the freight cost
- Excellent compatibility with existing mainstream system components
- Certified Low-Carbon Footprint



High power up to 645W

- Up to 23.9% module efficiency, on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency upgrade, including contact resistance reduction, rear reflection enhancement and edge-quality reprint



High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient ($-0.229\%/^{\circ}\text{C}$)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



Comprehensive Products and System Certificates

- IEC61215 IEC61730 IEC61703 IEC62716/UL61730
- ISO9001: Quality Management System
- ISO14001: Environmental Management System
- ISO4004: Greenhouse Gases Emissions Verification
- ISO45001: Occupational Health and Safety Management System
- ISO4067: Product Carbon Footprint Limited Assurance



Back

Technical Specifications

ELECTRICAL DATA (STC & NOCT & BIPV)												
Testing Condition	STC	NOCT	BIPV	STC	NOCT	BIPV	STC	NOCT	BIPV	STC	NOCT	BIPV
Peak Power Watts-Pmax(Wp)*	620	473	587	525	477	592	630	481	590	635	487	704
Power Selection (Wp)**	0 ~ 5											
Maximum Power Voltage-Vmp(V)	40.24	37.90	43.24	40.46	38.10	40.46	40.68	38.30	40.68	40.80	38.50	43.80
Maximum Power Current-Imp(A)	15.41	12.47	17.07	15.45	12.52	17.12	15.49	12.57	17.15	15.55	12.60	17.23
Open Circuit Voltage-Voc(V)	48.50	46.10	48.50	48.79	46.39	48.79	48.90	46.50	48.90	49.10	46.60	49.10
Short Circuit Current-Isc(A)	16.26	13.10	18.00	16.32	13.15	18.09	16.38	13.20	18.15	16.44	13.25	18.22
Module Efficiency _{STC} (%)	23.0											
Module Efficiency _{NOCT} (%)	23.1											
Module Efficiency _{BIPV} (%)	23.3											
Module Efficiency _{STC} (%)	23.5											
Module Efficiency _{NOCT} (%)	23.7											
Module Efficiency _{BIPV} (%)	23.9											

STC: irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5, NOCT: irradiance at 800W/m², Ambient Temperature 30°C, Wind Speed 1m/s, BIPV: irradiance at 1000W/m², rear 1750W/m², Temperature 25°C, Air Mass AM1.5
 *Power selection up to 1.5% **Power selection up to 1.5%

Electrical characteristics with different power bin (reference to 1% & 10% backside power gain)												
Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-Pmax(Wp)	661	662	665	666	662	660	667	666	672	704	677	710
Maximum Power Voltage-Vmp(V)	40.24	40.24	40.46	40.46	40.68	40.68	40.80	40.80	41.06	41.06	41.22	41.22
Maximum Power Current-Imp(A)	16.18	16.95	16.22	17.80	16.26	17.04	16.33	17.11	16.38	17.09	16.48	17.72
Open Circuit Voltage-Voc(V)	48.50	48.50	48.79	48.79	48.90	48.90	49.10	49.10	49.30	49.30	49.52	49.52
Short Circuit Current-Isc(A)	17.07	17.89	17.14	17.95	17.20	18.02	17.25	18.06	17.34	18.18	17.30	18.21
Power Efficiency(%)	23.5											

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (121°F)
Temperature Coefficient of Pmax	-0.25%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	0.04%/°C
Due to different testing methods, the actual performance might differ from the declared specifications.	

MAXIMUM RATINGS

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1500V DC (BC)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

I-V CURVES OF PV MODULE (E35W)

Current (A)

Voltage (V)

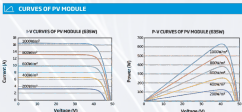
1000W/m²
800W/m²
600W/m²
400W/m²
200W/m²

P-V CURVES OF PV MODULE (E35W)

Power (W)

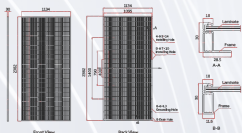
Voltage (V)

1000W/m²
800W/m²
600W/m²
400W/m²
200W/m²



MECHANICAL DATA												
Total Cells	H-type 120 Cells Monocrystalline											
No. of cells	120 cells											
Module Dimensions	2282±12 (90±0.5) mm (90.5±0.5) inches											
Weight	15.2 kg (33.5 lbs)											
Front Glass	2.0 mm (0.0787 inches) AR Coating/Heat Strengthened Glass											
Back Glass	2.0 mm (0.0787 inches) Heat Strengthened Glass (only for mono)											
Frame	30mm (1.18 inches) Anodized Aluminum Alloy											
J-Box	IP 68 rated											
Cables	Photovoltaic Technology Cable-A 5mm² (16 AWG) (max 1m) Portable 25A/500V mm² (max 1m) Length (can be customized)											
Connector	MC4-1000 / T54 Pinout T54P											
Packaging	Modules per box: 36 pieces Modules per 40HQ container: 720 pieces											

*Please refer to regional distributor for specified connection.



Vertex N **TrinaSolar**

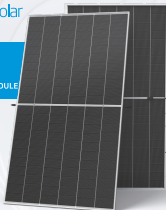
N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20 700-725W

725W / MAXIMUM POWER OUTPUT

23.3% / MAXIMUM EFFICIENCY



High customer value

- Standardized module size with flagship module power, 35W higher compared with conventional technology
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 2%~5%
- Higher container space utilization effectively reduces the freight cost
- Certified Low-Carbon Footprint
- The Star of LCOE



High power up to 725W

- Up to 23.3% module efficiency, on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge quality repairment



High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.23%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



Comprehensive Products and System Certificates

ISO9001:2015/ISO14001:2015/ISO45001:2018
ISO9000: Quality Management System
ISO14001: Environmental Management System
ISO45001: Occupational Health and Safety Management System
ISO14064: Product Carbon Footprint Limited Assurance



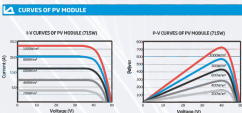
Back

Technical Specifications

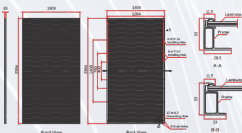
ELECTRICAL DATA (STC & NOCT @ 800W)												
Testing Condition	STC	NOCT	BMF1	STC	NOCT	BMF1	STC	NOCT	BMF1	STC	NOCT	BMF1
Peak Power (Watts)-Pmax(W)*	700	594	776	705	540	781	710	548	787	715	547	792
Power Selection (W)**	0 ~ +5											
Maximum Power Voltage-Vmp (V)	40.5	38.0	40.5	40.7	38.3	40.7	40.5	38.5	40.9	41.3	38.7	41.1
Maximum Power Current-Imp (A)	17.29	14.04	19.25	17.33	14.08	19.19	17.38	14.12	19.25	17.46	14.19	19.32
Open Circuit Voltage-Voc (V)	48.6	46.1	48.6	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2
Short Circuit Current-Isc (A)	20.32	14.76	20.30	20.36	14.80	20.34	20.40	14.83	20.39	20.44	14.86	20.43
Module Efficiency (%)	22.5			22.7			22.9			23.0		
STC Irradiance: 1000W/m ² , Cell Temperature: 25°C, Air Mass: AM1.5, NOCT Irradiance: 800W/m ² , Ambient Temperature: 20°C, Wind Speed: 1m/s, BMF1 Irradiance: 1000W/m ² , Air Mass: AM1.5, Cell Temperature: 25°C												

Electrical characteristics with different power bin (reference to 0% & 10% backside power gain)												
Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-Pmax(W)	705	770	740	776	746	781	752	787	756	792	761	798
Maximum Power Voltage-Vmp (V)	40.5	40.5	40.7	40.7	40.9	40.9	41.1	41.1	41.3	41.3	41.5	41.5
Maximum Power Current-Imp (A)	18.25	19.02	18.29	19.06	18.29	19.10	18.27	19.14	18.31	19.18	18.34	19.22
Open Circuit Voltage-Voc (V)	48.6	48.6	48.8	48.8	49.0	49.0	49.2	49.2	49.4	49.4	49.6	49.6
Short Circuit Current-Isc (A)	19.24	20.15	19.28	20.20	19.32	20.24	19.36	20.28	19.41	20.34	19.47	20.29
Power Efficiency: 90.15%												

TEMPERATURE RATINGS	
NOCT (Maximum operating cell temperature)	44°C (112°F)
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	0.04%/°C
Due to different testing methods, the actual performance might differ from the declared specifications.	
APPLICATION CONDITIONS	
Operating Temperature	-40 ~ +70°C
Maximum System Voltage	1500V DC (ETC)
Max System Fuse Rating	75A



MECHANICAL DATA	
Solar Cells	A-type 1 TOPCON Monocrystalline
No. of cells	144 cells
Module Dimensions	2084 ± 0.64 × 1034 ± 0.64 mm (81.65 × 40.71 in.)
Weight	36.5 kg (80.4 lbs)
Front Glass	2.0 mm thickness, AR-Coating Heat-Strengthened Glass
Back Glass	2.0 mm thickness, Heat-Strengthened Glass anti-reflection
Frame	Fluoropolymer-coated Anodized Aluminum Alloy
J-Box	IP68 rated
Cables	Photovoltaic Technology Cable: 4-core PV conductors Portals: 25 × 25 mm (1.0 × 1.0 in.) Length can be customized
Connector	MC4 EVOL / EVA Plus / T54 [†]
Packaging	Modules per box: 33 pieces Modules per container: 554 pieces
[†] Please refer to regional distributor for specified connector.	





Inverter

Brand Selection:

 GROWATT



 solis



SUNGROW



 HUAWEI



Back

Contact support



Inverter GROWATT

Type Selection:



On Grid

Max 100-125KTL3-XLV



Off Grid

SPF 6000 ES Plus



Hybrid

WIT 4-15K-HU



Back

Contact support



Data sheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data [DC]				
Max. DC voltage			1100V	
Start voltage			195V	
Nominal voltage			600V	
MPP voltage range			180V-1080V	
No. of MPP trackers			10	
No. of PV strings per MPP tracker			2	
Max. input current per MPP tracker			32A	
Max. short-circuit current per MPP tracker			40A	
Output data [AC]				
AC nominal power	130000W	118000W	120000W	125000W
Max. AC apparent power	130000VA	121000VA	120000VA	125000VA
Nominal AC voltage (range*)	220V/230V 230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz (50-60 Hz)			
Max. output current	150.5A(±40V) 147.1A(±380V)	174.5A(±40V) 163.8A(±380V)	140.5A(±40V) 260.5A(±380V)	198.5A(±40V) 208.9A(±380V)
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3phase			
Efficiency				
Max. efficiency		96.8%	96.8%	
European efficiency	96.4%	96.5%	96.5%	96.5%
MPP efficiency		95.9%	95.9%	
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type I			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
String detection	Yes			
Anti-PD function	Optional			
Arc fault detection (AFCI)	Optional			
General data				
Dimensions (W x H x D)	970x440x145mm			
Weight	54kg			
Operating temperature range	-30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	full-bridgeless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4500m			
DC connection	H4MC4 (Max. 6mm²)			
AC connection	Cf terminal (Max. 35mm²)			
Display	LED/RS485-APP			
Integrating: RS485 / USB / PLC/OPGW/4G/LTE	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE, UKCA, IEC62116, IEC61727, CQC, VDE0125, VDE0126, IEC62549, IEC62549-1/-2, C100C11, UNE206037, G99, CEI 0-215-16, NABTES, IEC62650-6, IEC62650-6, IEC62650-6, IEC62650-6				

CE, UKCA, IEC62116, IEC61737, CQC, VDE0126, VR2019, BV5549-U-2, C110C1/L, IEC206007, GPR, CE-0-219-16, RA105, IEC206006, MCA, RA, IEC61555

* The AC voltage range and frequency range may vary depending on specific country grid standard.

All specifications are subject to change without notice.



Back

Contact support



Datasheet		SPF 6000 ES Plus
Battery voltage		60VDC
Battery type		Lithium/Lead-acid
Inverter output		
Rated power		6000VA/6000W
Parallel capability		Yes, & units maximum
AC voltage regulation (battery model)		230VAC $\pm$ 5% @ 50/60Hz
Surge power		12000VA
Efficiency (peak)		93%
Waveform		Pure sine wave
Transfer time		10ms typical, 20ms Max
Solar charger		
Maximum PV array power		8000W
MPPT range @ operating voltage		128VDC $\sim$ 450VDC
Number of independent MPPT trackers/ strings per MPPT tracker		2/1
Max. input current per MPPT tracker		16A
Maximum PV array open circuit voltage		500VDC
Maximum solar charge current		100A
AC charger		
Charge current		80A
AC input voltage		230VAC
Selectable voltage range		130-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range		50Hz/60Hz (Auto sensing)
Physical		
Protection degree		IP23
Dimension (W*H*D)		440/385/132mm
Net weight		13.5kg
Operating environment		
Humidity		0% to 95% Relative humidity (Non-condensing)
Altitude		$\leq$ 2000m
Operating temperature		0°C $\sim$ 50°C
Storage temperature		$-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$



Back

Contact support



Datasheet	WT 4K-HU	WT 5K-HU	WT 6K-HU	WT 8K-HU	WT 10K-HU	WT 12K-HU	WT 15K-HU
Input data (PV)							
Max. recommended PV power (for module STC)	6400W	8000W	9600W	12800W	16000W	19200W	24000W
Max. input voltage	1800V						
Start voltage	180V						
Nominal voltage	400V						
MPPT voltage range	150V-850V						
Max. input current per MPPT input	40A			25A		40A	
Max. short-circuit current per MPPT input	50A			25A		50A	
No. of PV strings per MPPT input	2			1		2/1	
No. of MPPT inputs	1			2		2	
Input/Output AC (including the Gen Port)							
AC input/output nominal power (Grid)	8000VA/8000W	10000VA/10000W	12000VA/12000W	16000VA/16000W	20000VA/20000W	24000VA/24000W	30000VA/30000W
Max. AC input/output apparent power (Grid)	8000VA/8000VA	10000VA/10000VA	12000VA/12000VA	16000VA/16000VA	20000VA/20000VA	24000VA/24000VA	30000VA/30000VA
Max. input/output current (Grid)	13.4A/13.4A	16.7A/16.7A	20.0A/20.0A	25.6A/25.6A	31.2A/31.2A	37.8A/37.8A	47.4A/47.4A
Max. input current (GEN/AC couple)	12.2A	15.2A	18.2A	23.2A	30.4A	36.4A	45.4A
Max. continuous AC pass-through current	50.1A						
Nominal AC voltage/range	230V/380V 230V/400V ±15%~±10%						
Nominal AC grid frequency/range	50/60Hz, 49-51Hz/50-60 Hz						
Adjustable power factor	-1...+1						
THDI	<3%						
AC grid connection type	3P3W+PE/3P3W+PE						
Battery data (DC)							
Battery type	Lead-acid or Lithium-ion						
Battery voltage range/Rated voltage	48V/51.2V						
Max. charging and discharging current	118A	125A	118A	200A	228A	250A	298A
BMS communication	RS485/CAN						
Backup power (AC)*							
Rated AC output power	4800W	5000W	6000W	8000W	10000W	12000W	15000W
Max. AC apparent power	2 times of rated power, 15s						
Rated AC output voltage	220V/230V, 230V/240V						
Nominal AC output frequency	50/60Hz						
Max. output current	12.2A@220V 11.4A@230V	15.2A@220V 14.4A@230V	18.2A@220V 17.0A@230V	23.2A@220V 21.2A@230V	30.4A@220V 29A@230V	36.4A@220V 34.8A@230V	45.4A@220V 43.4A@230V
THDI	3% (linear load)						
Load unbalance	100% three-phase unbalanced						
Switch grid transfer time	15ms						
Efficiency							
Max. efficiency	97.65%						
European efficiency	97.00%						
MPPT efficiency	99.95%						
Protection devices							
PV reverse polarity protection	Yes						
DC switch	Yes						
DC/AC surge protection	Type II Type III						
Insulation resistance monitoring	Yes						
Residual-current monitoring unit	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Strings monitoring	Yes						
Anti-shading protection	Yes						
PO protection	Opt						
APC function	Opt						
General							
Dimensions (W x H x D)	415x285x240mm						
Weight	43kg						
Operating temperature range	-30°C ~ +50°C (≥ +45°C, derating)						
Noise	40dB(A)						
Relative humidity	5~95%						
Altitude	3000m						
Topology	Transformerless						
Cooling	Smart air cooling						
IP degree	IP65						
Display	LED/LCD+MP						
Interfaces: RS485/LAN	Yes						
Interface: WiFi/LAN	Yes						
Warranty (1st/10 years)	5/10yrs						

HC4213R HC 4130R HC 4122R HC 4211R HC 41MR HC 4008R PVL 500W MP 470R

WT4021H, WT4100H, WT4100H, WT4100H, WT4100H, WT4100H, WT4100H, WT4100H



Back

Contact support



Inverter solis

Type Selection:



On Grid

80 - 125K



On Grid

250 - 255K



On Grid

350K



Back

Contact support



DATASHEET

S6-GC(80-125)K

ON GRID

Models	80K	100K	110K	125K	125K-HV
Input DC					
Max. input voltage	1100 V				
Rated voltage	600 V				120 V
Start-up voltage	300 V				
MPPT voltage range	180 - 1000 V				
Max. input current	4 × (42 A / 36 A)	5 × (42 A / 36 A)			
Max. short circuit current	8 × 58 A	10 × 58 A			
MPPT number / Max. input strings number	8 / 35	10 / 30			
Output AC					
Rated output power	90 kW	100 kW	110 kW	125 kW	125 kW
Max. apparent output power	88 kVA	118 kVA	121 kVA	125 kVA	120.5 kVA
Max. output power	98 kW	130 kW	121 kW	115 kW	137.5 kW
Rated grid voltage	3/4/PE, 220 V / 380 V, 230 V / 400 V				3/PE, 400 V
Rated grid frequency	50 Hz / 60 Hz				
Rated grid output current	121.6 A / 118.5 A	152.8 A / 144.3 A	181.1 A / 158.8 A	209.5 A / 380.4 A	150.4 A
Max. output current	133.7 A	167.1 A	183.8 A	209.5 A	185.4 A
Power factor	= 0.99 (0.8 leading - 0.8 lagging)				
THDi	= 3%				
Efficiency					
Max. efficiency	98.7%				
EU efficiency	98.4%				
Protection					
DC reverse polarity protection	Yes				
Short circuit protection	Yes				
Output over current protection	Yes				
Surge protection	DC Type II / AC Type II				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Temperature protection	Yes				
Strings monitoring	Yes				
IV Curve scanning	Yes				
Integrated MPD 2.0	Optional				
Integrated PID recovery	Optional				
Integrated DC switch	Yes				
Integrated AC switch	Optional				
General Data					
Dimensions (W × H × D)	1014 × 561 × 345 mm				
Weight	53 kg	95 kg			
Topology	Transformerless				
Self-consumption (night)	= 2 W				
Operating ambient temperature range	-30 ~ +40°C				
Relative humidity	0 ~ 100%				
Ingress protection	IP66				
Cooling concept	Intelligent fan-cooling				
Max. operation altitude	4000 m				
Grid connection standard	GB, IEC61737, EN50549-1/2, IEC61118				
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4				
Features					
DC connection	MC4 connector				
AC connection	C/F terminal (max. 240 mm²)				
Display	LED				
Communication	RS485, Opto-Isol. RS-485, GPRS, PLC				



Back

Contact support



DATASHEET

Solis-(250-255)K-EHV-5G-PLUS

ON GRID

Models	250K		255K	
Input DC				
Max. input voltage	2500 V			
Rated voltage	2000 V			
Start-up voltage	500 V			
MPPT voltage range	480 - 1580 V			
Max. input current	12 × 36 A			
Max. short-circuit current	12 × 56 A			
MPPT number / Max. input strings number	12 / 34			
Output AC				
Output power	250 kW@38°C / 235 kW@40°C / 220 kW@50°C		255 kW@30°C / 235 kW@40°C / 228 kW@50°C	
Rated grid voltage	3/PE, 800 V			
Grid voltage range	840 - 926 V			
Rated grid frequency	50 Hz / 60 Hz			
Max. output current	180.4 A		184.0 A	
Power factor	±0.99 (0.8 leading - 0.8 lagging)			
THDi	< 3%			
Efficiency				
Max. efficiency	99.8%			
EU efficiency	98.8%			
Protection				
DC reverse polarity protection	Yes			
Short-circuit protection	Yes			
Output over current protection	Yes			
Barge protection	DC Type II / AC Type II			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Temperature protection	Yes			
Strings monitoring	Yes			
UV Curve scanning	Yes			
Night time S0 function	Yes			
Integrated PID recovery	Yes			
Integrated DC switch	Yes			
General Data				
Dimensions (H × W × D)	1125 × 770 × 304 mm			
Weight	113 kg			
Topology	Transformerless			
Self-consumption (night)	≈ 2 W			
Operating ambient temperature range	-30 ~ +60°C			
Relative humidity	0 - 100%			
Ingress protection	IP66			
Cooling concept	Intelligent fan-cooling			
Max. operation altitude	4000 m			
Grid connection standard	EN50438, G99, IEC61712, VDE0126, IEC61717, VDE4130, CEA 2013			
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 62038-4-2/4			
Features				
DC connection	MC4 connector			
AC connection	GT terminal (max. 300 mm²)			
Display	LCD			
Communication	RS485, Optional: PLC			



Back

Contact support



DATASHEET

ON GRID

Models	350K
Input DC	
Max. input voltage	2500 V
Rated voltage	2000 V
Start-up voltage	500 V
MPPT voltage range	480 - 2500 V
Max. input current	6 × 50 A
Max. short circuit current	6 × 125 A
MPPT number / Max. input strings number	6 / 30
Output AC	
Rated output power	350 kW
Max. apparent output power	390 kVA
Rated grid voltage	500V, 800V
Grid voltage range	440 - 520 V
Rated grid frequency	50 Hz / 60 Hz
Max. output current	252.6 A
Power factor	+ 0.99 (0.8 leading - 0.9 lagging)
THDi	< 3%
Efficiency	
Max. efficiency	99.8%
EU efficiency	98.7%
Protection	
DC reverse-polarity protection	Yes
Short circuit protection	Yes
Output over current protection	Yes
Surge protection	DC Type II / AC Type II
Grid monitoring	Yes
Anti-islanding protection	Yes
Temperature protection	Yes
Strings monitoring	Yes
UV Curve scanning	Yes
Night time STO function	Yes
Integrated PID recovery	Yes
Integrated DC switch	Yes
General Data	
Dimensions (W × H × D)	3200 × 815 × 370.5 mm
Weight	317 kg
Topology	Transformerless
Self-consumption (night)	< 2 W
Operating ambient temperature range	-30 ~ +60°C
Relative humidity	0 ~ 100%
Ingress protection	IP66
Cooling concept	Intelligent fan-cooling
Max. operation altitude	4000 m
Grid connection standard	EN50463, EN50477-2, VDE0126, IEC61721, VDE4130, CEA 2019
Safety / EMC standard	IEC61189-3/2, EN61800-6-2/3-4
Features	
DC connection	Matching connector
AC connection	DT terminal (max. 480 mm ²)
Display	LED indicator & Bluetooth + APP
Communication	RS485, Optional PLC



Back

Contact support



Inverter

SUNGROW

Type Selection:



On Grid

SG125CX-P2



On Grid

SG150CX



Back

Contact support



SUNGROW

ON GRID

Type designation	SG125CX-P2
Input (DC)	
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPP voltage range	180 ~ 1000 V
No. of independent MPP inputs	12
No. of PV strings per MPPT	2
Max. PV input current	360 A (30 A * 12)
Max. DC short-circuit current	480 A (40 A * 12)
Max. current for DC connector	20A
Output (AC)	
Max. AC Output power	125 kVA (415 V @ 50 °C) *
Rated AC output apparent power	125 kVA (415 V @ 50 °C) *
Max. AC output current	180.3 A
Rated AC output current(at 230V)	180.3 A
Rated AC voltage	3 / N / PE, 230 / 400 V; 3 / N / PE, 240 / 415 V
AC voltage range	320 ~ 480 V
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 ~ 55 Hz / 55 ~ 65 Hz
Harmonic (THD)	< 3 % (at rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.9 leading ~ 0.8 lagging
Feed-in phases / connection phases	3 / 3-N-PE
Efficiency	
Max. efficiency / European efficiency	96.5% / 96.3%
Protection	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I + II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string monitoring	Yes
Q at night function	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
General Data	
Dimensions (W*H*D)	1020*750*360 mm
Mounting Method	Wall-mounting bracket
Weight	87 kg
Topology	Transformerless
Degree of protection	IP66
Corrosion	C5
Night power consumption	< 5 W
Operating ambient temperature range	-30 to 60 °C
Allowable relative humidity range (non-condensing)	0 ~ 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (≥ 3000 m derating)
Display	LED, Bluetooth+APP
Optimizer	SP6005 (Optional)
Communication	R5485 / Optional: WLAN, Ethernet
DC connection type	Evo2 (Max. 6 mm ²)
AC connection type	OT / OT terminal (Max. 240 mm ²)
Grid Compliance	IEC 62109-1, EN/IEC 61000-4-1/2/3/4, IEC 61727, IEC 62116, EN 50549-1/2, UTE C15-712-1, VDE V 0136-1-1, VDE-AR-N 4105:2018, VFR 2019, NC, RFG, C59, UNE 217002, NTS, CEI 0-21 2019, CEI 0-16 2019, NRS-097-2-1
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control



Back

Contact support



SUNGROW

ON GRID

Type designation	SG150CX
Input (DC)	
Recommended max. PV input power	210 kWp
Max. PV input voltage*	1050 V
Min. PV input voltage / Startup input voltage	180 V / 700 V
Rated PV input voltage	600 V 380 V / 400 V / 415 V / 720 V / 480 V
MPP voltage range**	180 V - 830 V
No. of independent MPP inputs	7
No. of PV strings per MPP	3 / 3 / 3 / 3 / 3 / 3
Max. PV input current	236 A (48 A * 3)
Max. DC short-circuit current	482 A (86 A * 3)
Max. current for DC connector	30 A
Output (AC)	
Rated AC output power	150 kW
Max. AC output apparent power	165 kVA
Max. AC output current	250.7 A @ 380 Vac; 240.6 A @ 400 Vac / 415 Vac; 200.5 A @ 480 Vac
Rated AC output current	227.4 A @ 380 Vac; 214.5 A @ 400 Vac / 415 Vac; 180 A @ 480 Vac
Rated AC voltage	3 / N / PE, 220 V / 380 V, 230 V / 400 V, 240 V / 415 V, 277 V / 480 V
AC voltage range	320 V - 480 V (380 V / 400 V / 415 V) ; 380 V - 582 V (480 V)
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 Hz - 65 Hz / 55 Hz - 65 Hz
Harmonic (THD)	≤ 1 % (at 400 V AC voltage and rated power) ≤ 2 % (at 480 V AC voltage and rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.81 leading - 0.81 lagging
Feed in phases / AC connection	3 / 3-N-PE
Efficiency	
Max. efficiency	96.8%
European efficiency	96.2% (390 V / 400 V / 415 V); 98.4 % (480 V)
Protection & function	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I+II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string current monitoring	Yes
Intelligent DC arc interrupter	Yes
Arc fault circuit interrupter (AFCI)	Yes
RII recovery function	Yes
ISO compatibility ***	Optional
General data	
Dimensions (W * H * D)	825 mm * 794 mm * 360 mm
Weight	≤ 100 kg
Mounting method	Wall-mounting bracket
Topology	Transformerless
Degree of protection	IP66
Night power consumption	≤ 7 W
Corrosion	C5
Operating ambient temperature range	-30 °C - 60 °C
Allowable relative humidity range (non-condensing)	0 - 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m
Display	LED, Bluetooth + APP
Communication	RS485 / WLAN (optional) / Ethernet (optional)
DC connection type	EVQ2 (Max. 6 mm)
AC connection type	OT / OT terminal (100-400 mm²)
AC cable specification	Outside diameter 18 mm Ø 38 mm
Grid compliance	IEC EN 62109-1/-2; IEC 60629; IEC 62002-4-1/-2/-3/-4; IEC 62011; C-SPR Y; IEC 62020; EN 50549-1/10/-2/-10; IEC 61727; IEC 62176; IEC 61683; EN 50530; IEC 60068-1/-2/-14/-20/-30/-64; IEC/EN 61000-3-11/-12; IEC 62320; VDE 4110; VDE 4120; PSE 2018; NC RFG; TOR Graeger Typ A; TOR Graeger Typ B; DVC-Richlinie RGS/03.20; D99; CEI 0-16; CEI 0-21; VDE 0126; NTS UNE27000/07002; NTS 630; IEC 60947-2; IEC 6184; IEC 62380; DEWA; NIS 070; IEC 62002-41; IEC 62002-42; IEC 62002-43; IEC 62002-44; IEC 62002-45; IEC 62002-46; IEC 62002-47; IEC 62002-48; IEC 62002-49; IEC 62002-50; IEC 62002-51; IEC 62002-52; IEC 62002-53; IEC 62002-54; IEC 62002-55; IEC 62002-56; IEC 62002-57; IEC 62002-58; IEC 62002-59; IEC 62002-60; IEC 62002-61; IEC 62002-62; IEC 62002-63; IEC 62002-64; IEC 62002-65; IEC 62002-66; IEC 62002-67; IEC 62002-68; IEC 62002-69; IEC 62002-70; IEC 62002-71; IEC 62002-72; IEC 62002-73; IEC 62002-74; IEC 62002-75; IEC 62002-76; IEC 62002-77; IEC 62002-78; IEC 62002-79; IEC 62002-80; IEC 62002-81; IEC 62002-82; IEC 62002-83; IEC 62002-84; IEC 62002-85; IEC 62002-86; IEC 62002-87; IEC 62002-88; IEC 62002-89; IEC 62002-90; IEC 62002-91; IEC 62002-92; IEC 62002-93; IEC 62002-94; IEC 62002-95; IEC 62002-96; IEC 62002-97; IEC 62002-98; IEC 62002-99; IEC 62003-1; IEC 62003-2; IEC 62003-3; IEC 62003-4; IEC 62003-5; IEC 62003-6; IEC 62003-7; IEC 62003-8; IEC 62003-9; IEC 62003-10; IEC 62003-11; IEC 62003-12; IEC 62003-13; IEC 62003-14; IEC 62003-15; IEC 62003-16; IEC 62003-17; IEC 62003-18; IEC 62003-19; IEC 62003-20; IEC 62003-21; IEC 62003-22; IEC 62003-23; IEC 62003-24; IEC 62003-25; IEC 62003-26; IEC 62003-27; IEC 62003-28; IEC 62003-29; IEC 62003-30; IEC 62003-31; IEC 62003-32; IEC 62003-33; IEC 62003-34; IEC 62003-35; IEC 62003-36; IEC 62003-37; IEC 62003-38; IEC 62003-39; IEC 62003-40; IEC 62003-41; IEC 62003-42; IEC 62003-43; IEC 62003-44; IEC 62003-45; IEC 62003-46; IEC 62003-47; IEC 62003-48; IEC 62003-49; IEC 62003-50; IEC 62003-51; IEC 62003-52; IEC 62003-53; IEC 62003-54; IEC 62003-55; IEC 62003-56; IEC 62003-57; IEC 62003-58; IEC 62003-59; IEC 62003-60; IEC 62003-61; IEC 62003-62; IEC 62003-63; IEC 62003-64; IEC 62003-65; IEC 62003-66; IEC 62003-67; IEC 62003-68; IEC 62003-69; IEC 62003-70; IEC 62003-71; IEC 62003-72; IEC 62003-73; IEC 62003-74; IEC 62003-75; IEC 62003-76; IEC 62003-77; IEC 62003-78; IEC 62003-79; IEC 62003-80; IEC 62003-81; IEC 62003-82; IEC 62003-83; IEC 62003-84; IEC 62003-85; IEC 62003-86; IEC 62003-87; IEC 62003-88; IEC 62003-89; IEC 62003-90; IEC 62003-91; IEC 62003-92; IEC 62003-93; IEC 62003-94; IEC 62003-95; IEC 62003-96; IEC 62003-97; IEC 62003-98; IEC 62003-99; IEC 62004-1; IEC 62004-2; IEC 62004-3; IEC 62004-4; IEC 62004-5; IEC 62004-6; IEC 62004-7; IEC 62004-8; IEC 62004-9; IEC 62004-10; IEC 62004-11; IEC 62004-12; IEC 62004-13; IEC 62004-14; IEC 62004-15; IEC 62004-16; IEC 62004-17; IEC 62004-18; IEC 62004-19; IEC 62004-20; IEC 62004-21; IEC 62004-22; IEC 62004-23; IEC 62004-24; IEC 62004-25; IEC 62004-26; IEC 62004-27; IEC 62004-28; 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IEC 62010-88; IEC 62010-89; IEC 62010-9

Inverter HUAWEI

Type Selection:



On Grid

SUN2000-115KTL-M2 >



On Grid

SUN2000-330KTL-H2 >



Back

Contact support



Technical Specification
SUN2002-115KTL-W2
Efficiency

Max. efficiency	97.5% (400 V), 98.3% (480 V)
European efficiency	96.4% (400 V), 96.5% (480 V)

Input

Max. Input Voltage	1,100 V
Max. Current per MPPT	30 A
Max. Current per input	30 A
Max. Short Circuit Current per MPPT	40 A
Start Voltage	220 V
MPPT Operating Voltage Range	200 V ~ 1,000 V
Harmonics Input Voltage	480 V (400 V), 720 V (480 V)
Number of MPPT trackers	10
Max. Input number per MPPT tracker	2

Output

Harmonics AC Active Power	115,000 W
Max. AC Apparent Power	125,000 VA
Max. AC Active Power (single-1)	125,000 W
Harmonics Output Voltage	400 V (480 V), 720 V (480 V)
Rated AC Grid Frequency	50 Hz (60 Hz)
Harmonics Output Current	166.6 A (480 V), 133.3 A (480 V)
Max. Output Current	187.1 A (480 V), 151.7 A (480 V)
Adjustable Power Factor Range	0.8 leading ~ 0.8 lagging
Max. Total Harmonic Distortion	< 3%

Protection

Input-side Disconnection Device	Yes
Anti-Islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PPV and String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring	Yes
Smart String Level Disconnect	Yes

Communication

Display	LED indicators; WLAN adaptor + FusionSolar APP
RS485	Yes
USB	Yes
Smart Dongle (4G)	Smart Dongle + 4G / WLAN (Optional)
Monitoring Data (WIFI)	Yes (stationary transformer required)

General Data

Dimensions (H x W x D)	1,000 x 800 x 360 mm
Weight (with mounting plate)	91 kg
Operating Temperature Range	-25°C ~ 40°C
Cooling Method	Smart Air Cooling
Max. Operating Wind speed	4.80 km/h (11.11 m/s)
Relative Humidity	0 ~ 100%
DC Connector	Amphenol HHD160
AC Connector	Waterproof Connector + 25/30° Terminal
Protection Degree	IP66
Topology	Three-inverting
High-line Power Consumption	< 3.5 W

Standard Compliance (more available upon request)

Certification	EN 60947-1, EN 60947-2, EN 61683, IEC 61683, IEC 61727, IEC 62488, IEC 62508
Grid Connection Standard	VDE 0441:2010, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-7, IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-10, IEC 61000-4-11, IEC 61000-4-12, IEC 61000-4-13, IEC 61000-4-14, IEC 61000-4-15, IEC 61000-4-16, IEC 61000-4-17, IEC 61000-4-18, IEC 61000-4-19, IEC 61000-4-20, IEC 61000-4-21, IEC 61000-4-22, IEC 61000-4-23, IEC 61000-4-24, IEC 61000-4-25, IEC 61000-4-26, IEC 61000-4-27, IEC 61000-4-28, IEC 61000-4-29, IEC 61000-4-30, IEC 61000-4-31, IEC 61000-4-32, IEC 61000-4-33, IEC 61000-4-34, IEC 61000-4-35, IEC 61000-4-36, IEC 61000-4-37, IEC 61000-4-38, IEC 61000-4-39, IEC 61000-4-40, IEC 61000-4-41, IEC 61000-4-42, IEC 61000-4-43, IEC 61000-4-44, IEC 61000-4-45, IEC 61000-4-46, IEC 61000-4-47, IEC 61000-4-48, IEC 61000-4-49, IEC 61000-4-50, IEC 61000-4-51, IEC 61000-4-52, IEC 61000-4-53, IEC 61000-4-54, IEC 61000-4-55, IEC 61000-4-56, IEC 61000-4-57, IEC 61000-4-58, IEC 61000-4-59, IEC 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Efficiency	
Max. Efficiency	≥ 96.0%
European Efficiency	≥ 96.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosφ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	240.3 A
Adjustable Power Factor Range	0.8 LG ~ 0.8 LD
Total Harmonic Distortion	THD ≤ 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 732 x 355 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH45MM4TMSPA / HH45PM4TMSPA
AC Connector	Support DT / DT Terminal (Max. 400 mm²)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62520, IEC 60947-2, EN 50549-2, IEC 61683, etc.	


Back
Contact support




LFP Battery

Brand Selection:

 GROWATT



 DYNES



Back

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GROWATT

LFP Batter

Type Selection:



HOPE 5.0L-B1



HOPE 5.0LW-B1



HOPE 16.0LM-A1

[Back](#)[Contact support](#)

GROWATT

Datasheet	Hope 5.0L-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 60.4V
Max. discharging current	180A
Peak discharging current	258A/150ms
Max charging current	180A
General data	
Dimension (W/D/H)	440/480/138.5mm
Weight	42±2Kg
IP protection	IP30
Charge temperature	0°C~+55°C
Discharge temperature	-20°C~+55°C
Features	
DOD	98%
Cycle life	>6000 (25°C, 0.3C)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 years

CE,UL,IMO, UN 38.3, MSDS, RoHS

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC



Back

Contact support



GROWATT

Datasheet	HOPE 5.0LW-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	105A
Peak discharging current	750A/5ms
Max charging current	105A
General data	
Dimension (WxDH)	280x152x426
Weight	<44.5kg
IP protection	IP20
Charge temperature	0°C~+55°C
Discharge temperature	-20~+55°C
Installation	Wall-mounted
Features	
DOD	92%
Cycle life	>4800 (90% DOD, 25°C)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
EOD21VCEBZCAUN06.3MS06/ROHS	



Back

Contact support



GROWATT

Datasheet		HOPE 16.0LM-A1
System data		
Battery type		LiFePO4
Nominal voltage		51.2V
Nominal capacity		150Ah
Usable capacity		15.3kWh
Operating voltage		40-58.4V
Max. Charge/Discharge current		118A/285A
Peak charging/ discharging current		758A/285A
DOB		95%
General		
Dimension(W*H*D)		440*894*265mm
Weight		128.12kg
Installation		Free-standing
Altitude		<3000m
IP Protection		IP55
Operating temperature		Chg: 0~45°C; Dis: -20 ~+35°C
Storage temperature*		-20 ~+35°C
Features		
Cycle life		4800@5C, 4000@40C, 3200@55C
Cooling		Natural convection
System connection		Max. 48 pins in parallel
Communication port		CAN/RS485
Warranty: System / 10 years		Yes / Optional
DISMIS UNBIL, MISC, RO-B, BGA2M-P		



Back

Contact support



DYNESS

LFP Battery

Type Selection:



DL5.0C PRO



POWERBRICK 14.3

[Back](#)[Contact support](#)

Model	BLESC Pro
Battery Type	LiFePO ₄
Nominal Battery Energy	512kWh
Nominal Capacity	100Ah
Nominal Voltage	512V
Operating Voltage	44.8~516V
Recommended Charge & Discharge C Rate	0.6C
Maximum Discharge C Rate	1C
Recommended Charge/Discharge Current	50A
Max. Charge/Discharge Current	Charge 75A, Discharge 100A
Peak Discharge Current	100A@10min
Depth of Discharge (DOD)	95%
Net Weight	48kg
Dimension(W/D/H)	489/56/150mm
Charging Temp. Range	0~55°C/20~55°C (with heating function)
Discharging Temp. Range	-20~55°C
Communication	CAN/RS485
BMS Module	Built-in BMS module, APP OTA function
Cycle Life*	>6000 Cycles
Protection Level	IP20
Active fire protection system	Optional Aerosol fire extinguisher
Expansion	Up to 50 units in parallel
Pros	Can be used in both off-grid and hybrid setups, compact design
Certification & Safety Standard	UN38.3/CE-CCC/IEC60336/CE-RED
Compatible Inverters	SMA/Schneider/Phoenix energy/ingersollrand/SolarInverter/ Growatt/Solaris/supersol/DESS/Alcoverium etc.



Contact support



DYNES

Model	PowerBrick
Battery Type	LiFePO ₄
Nominal Battery Energy	14.33kWh
Nominal Voltage/Capacity	51.2V/280Ah
Recommended Charge/Discharge Current	140A (0.5C)
Max. Charge Current	200A
Max. Discharge Current	200A
Depth of Discharge	88%
Communication	CAN/RS485
Cycle Life *	Unlimited cycles / 10 Years
Protection Level	IP20
Net Weight	114kg
Dimension(WxHxL)	435/235/857mm (No wall - mounted bracket)
Maximum Parallel Modules	80
Charging Temp. Range	0-55°C
Discharging Temp. Range	-20-95°C
WiFi Module	Built-in WiFi module; APP OTA function
Fire Protection System	Optional Aerosol fire extinguisher
Certification & Safety Standard	UN38.3/CE-EMC/IEC62038/GOST-R
Compatible Inverters	SMA/Solmelco/Victron energy/Inverex/Goeye/Goodrive/Growatt/Solarplaner/DOFAR/SAJ/DEYE etc.



Back

Contact support



Soiling Loss Measurement



NT-SMC01

[View Specifications](#)



[Back](#)

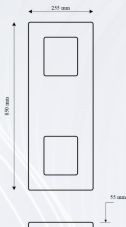
[Contact support](#)



- A precision instrument for measuring performance loss in solar panels caused by dust and pollution
- Locally designed with the ability to compare clean and polluted reference panels
- Equipped with self-cleaning reference cell, Wi-Fi and RS-485 connectivity
- Fast installation and stable operation in solar power plants

SPECIFICATIONS

Soiling Measurements	• Daily soiling loss (% of daily insolation loss) • Soiling rate (moving average, % loss/day) • Soiling ratio (IEC standard 61724-1) • Transmission loss (% instantaneous)
Irradiance	0 - 2000 W/m ² , $\pm 0.5\%$, temperature correction
Power and Battery	Solar powered, 3000 mAh extended temperature Lithium-Ion chemistry
Data Connection	Modbus RTU (over RS-485)
Data Retrieval	WiFi (Password Protected), Modbus (Micro SD Archiving Available for 10 Years)
Reference Cell	Polycrystalline cell, solar glass with standard ARC coating, white backsheet, EVA encapsulant
Self-Calibration	Easy 1x / year, on-site, OTA or local Modbus. No off-site lab calibration required.
Mechanical Load Rating	+/- 2400 Pa for wind +5400 Pa for snow loading
Enclosure IP Rating	IP66
Cleaning System	1x SS spray nozzles, 60psi max, 100 Ltr. reservoir with pump available (Wash Extension accessory)
Mounting Holes	(6) 1/4"-20 brass inserts
Dimensions	850 x 255 x 55 mm (L x H x D)
Weight	15 kg
Electronic Temp. Range	-20°C to +75°C
Warranty	3 Years
Accessories	• Wash Extension with Tank Level Sensor • Purlin Bracket Kit



- Preventing up to 40% efficiency loss in panels due to pollution
- Increasing economic lifespan and reducing panel surface erosion through optimized cleaning intervals
- Smart maintenance management for solar power plants by recording and analyzing production data
- Suitable for industrial, megawatt-scale, and research projects
- Accurate, reliable, and consistent performance compliant with IEC724-1 standard

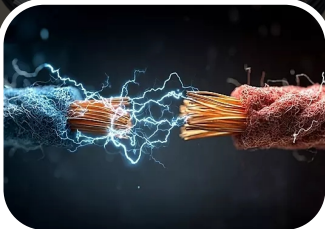


Back

Contact support



DC Cable



JINQISOLAR

[View Specifications](#)



[Back](#)

[Contact support](#)



Cable

JINQISOLAR

Type Selection:



JINQISOLAR 1x4mm² >



JINQISOLAR 1x6mm² >



Back

Contact support



IEC 62930 1x4.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 56/0.28mm (min)0.27mm (max)0.28mm
Stranded OD	3.46 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.0±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	5.7±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1+4mm ² DC1500V HALOGEN FREE LOW SMOKE JINGJI SOLAR PTE. LTD. B 132888

1x4.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20°C	≤5.8Ω/KM
Insulation resistance at 20°C	≥700 MΩ·Km
Insulation resistance at 90°C	≥0.70MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min, No break
DC Voltage test of insulation	1800V, 240h (85°C, 10g/LNaCl) No break
Tensile strength of insulation	≥8Mpa
Elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
Elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811-403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40°C, 16h) Winding at low temperature	IEC 60811-504
-40°C, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1, IEC 60216-2, T1120

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC: DC1500V
Working temperature	-40~90°C
Max. conductor temperature	120°C
Short circuit temperature	250°C @ 6s
Bending radius	6xD
Life Period	≥25 years

Current Rating Ambient Temperature: 30°C

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	57A	54A	45A



Back

Contact support



IEC 62930 1x6.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 84/0.28mm (nix6.27mm nix6.29mm)
Stranded OD	2.95 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.6±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/red
OD	6.3±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1x6mm2 DC1500V HALOGEN FREE LOW SMOKE JING SOLAR PTE. LTD. B 133886

1x6.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20°C	≤3.28Ω/KM
Insulation resistance at 20°C	≥610 MΩ·Km
Insulation resistance at 90°C	≥0.610 MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min, No break
DC voltage test of insulation	1800V, 240h (95°C, 10g/LNaCl) No break
Tensile strength of insulation	≥8MPa
elongation of insulation	≥125%
Tensile strength of sheath	≥8MPa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Corrosion resistant	IEC60811-403/EN50288-4.1.2
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-50°C, 16h) Winding at low temperature	IEC 60811-554
-40°C, 16h) Impact at low temperature	IEC 60811-556
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1, IEC 60216-2, TH20

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC-DC1500V
Working temperature	-40~90°C
Max. conductor temperature	125°C
Short circuit temperature	250°C @ 5S
Bending radius	6xD
Life Period	≥25 years

Current Rating Ambient Temperature: 30°C

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	72A	69A	58A

Approval: IEC62930



Back

Contact support



Connector



Trinasolar

[View Specifications](#)



[Back](#)

[Contact support](#)



TS4 Plus Connector Specifications

Product Name	TS4 Plus
Certified name	TS4-cd (c=1; d=1 or 2)
Rated voltage	IEC 1500V&UL 1500V
Rated current @IEC (85°C)	41A (4.0mm ² / 12AWG) 46A (6.0mm ² / 10AWG)
Rated impulse voltage	16KV
Ambient temperature range	-40°C ~ +85°C
Contact resistance	≤0.5mΩ
Application degree	Class A
Protection class	Class II
Pollution degree	2
Degree of protection	IP68 (1m, 1h) mated IP2X unmated
Flame class	UL94-V0
Insulation material	m-PPE/PA
Contact material	Copper, Tin-plated
Type of termination	Crimping
Locking system(UL)	Locking type
TUV/IEC62852	R50508240/R50385924
UL,UL6703	E486009

Product Selection Form

Type	P/N	Cable OD	Conductor Cross Section		Tool P/N		
			mm ²	AWG	Wire Stripper P/N	Rivet Plier P/N	Spanner P/N
TS4 Plus-F1	7A004669	4.7-6.0	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M1	7A004670						
TS4 Plus-F2	7A004671	5.6-6.8	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M2	7A004672						
TS4 Plus-F3	7A004673	6.0-7.2	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M3	7A004674						



Back

Contact support



Structure



FIXED BRACKET

[View Specifications](#)



[Back](#)

[Contact support](#)





Easy Adjustment

- **Push-Rod Operation - Quick Locking:** Ground push-rod operation allows fast adjustment and reliable locking.



Stable Structure

- **Triangular Locking - Superior Wind Resistance:** Triangular stable structure provides wind resistance comparable to fixed mounts.



Reliable Locking

- **Pin Fastening - No Loosening Risk:** Mechanical pin locking ensures no loosening.



Easy Operation & Maintenance

- **Durable - Low Maintenance:** Simple and durable design reduces O&M costs.

System Parameters

Tracking Type	2X14
Tilt Adjustment Range	15°-50°
Drive Type / Quantity	4 Push Rods
Protection Strategy	E-W: 5° (max); N-S: Unrestricted
Foundation Options	PHC pile
Structural Materials	Hot dipped galvanized/ZAM high-strength steel
Design Wind Load	0.45kN/m ² 25years
Design Snow Load	0.46kN/m ² 25years
Module Compatibility	Compatible with all types of module



Back

Contact support



MV Station solis

Model Selection:



Solis-6500-MV >



Solis-4550-MV >



Solis-9100-MV >



Back

Contact support



DATASHEET

Solis-6500-MV

Models	Solis-6500-MV
12 panel	
MCCB specification	400 A / 800 Vac / 3P, 10 + 2 p.c.s
ACB specification	3200 A / 800 Vac / 3P, 5 + 2 p.c.s
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	6500 kVA @ 40°C
Max. output power	7000 kVA @ 30°C
Output voltage	0.6/10 / 10 - 35 kV
Max. input current	2526 A x 2
Tapping on HV	42 + 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (x 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulator	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	6300 A
Interval arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
W surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General data	
Dimensions (W x H x D)	6000 x 2000 x 2400 mm
Approximate weight	21 T
Operating ambient temperature range	-25 - +40°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 10 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 30)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS-485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC 61810



Back

Contact support



DATASHEET

Solis-4550-MV

Models	Solis-4550-MV
LT panel	
MCCB specification	400 A / 100 IEC / 3P, 34 pcs
ICB specification	4000 A / 800 IEC / 3P, 1 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	4550 kVA @ 40°C
Max. output power	4900 kVA @ 30°C
Oil/MV voltage	0.8 MV / 38 - 35 kV
Max. input current	2526 A
Tapping in MV	12 ± 2.5%
Rectifier group	Dy11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (± 0.2%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 48.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LT surge protection	AC type I + II
IC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W*H*D)	8000 ± 2000 ± 2400 (mm)
Approximate weight	35.6 T
Operating ambient temperature range	-25 - +60°C
Max. operation altitude	2000m
Auxiliary power supply	5 kVA / 220 V (Optional: max. 50 kW)
UPS	1.0 MW 30 min (Optional: max. 2 MW 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-M (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, DiverNet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC 61850



Back

Contact support



DATASHEET

Solis-9100-MV

Models	Solis-9100-MV
DC panel	
DCB specification	408 A / 880Vdc / 3P, 34 + 2 pcs
ADB specification	408 A / 800Vdc / 3P, 1 + 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	3300 kW @ 40°C
Max. output power	8800 kW @ 80°C
LV / MV voltage	0.69 kV / 10 - 35 kV
Max. input current	3550 A + 2
Tapping in kV	±2 + 2.5%
Vector group	Dy11y12
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	0.5% (±0.2%)
Oil type	Mineral oil (Optional plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	K
Connection form with MV switchgear	Cable
MV switchgear	
Type of insulate	SF6 (Optional: SF6-free)
Rated voltage	12 - 48.5 kV
Rated current	630 kA
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
UV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil temperature, oil level, oil pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W × H × D)	6258 × 2896 × 2408 / mm
Approximate weight	23.5 T
Operating ambient temperature range	-35 ~ +60°C
Max. operation altitude	2088 m
Auxiliary power supply	5 kW / 230V (Optional: max. 50 kW)
UPS	1 kW, 30 min (Optional: max. 2 kW, 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C4-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60816, IEC 62211, IEC 61419



Back

Contact support





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Back