



FusionSolar® Residential & Commercial Smart PV Solution

[SOLAR.HUAWEI.COM/AU/](https://solar.huawei.com/au/)



About Huawei

Huawei is a leading global provider of information and communications technology (ICT) infrastructure and smart devices. With integrated solutions across four key domains – telecom networks, IT, smart devices, and cloud services – we are committed to bringing digital to every person, home and organization for a fully connected, intelligent world. Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, we create lasting value for our customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes. At Huawei, innovation focuses on customer needs. We invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward.



Employees
194,000+



R&D Personnel
96,000+



Countries
170+



Interbrand's Top 100
Best Global Brands
74



Fortune Global 500
61

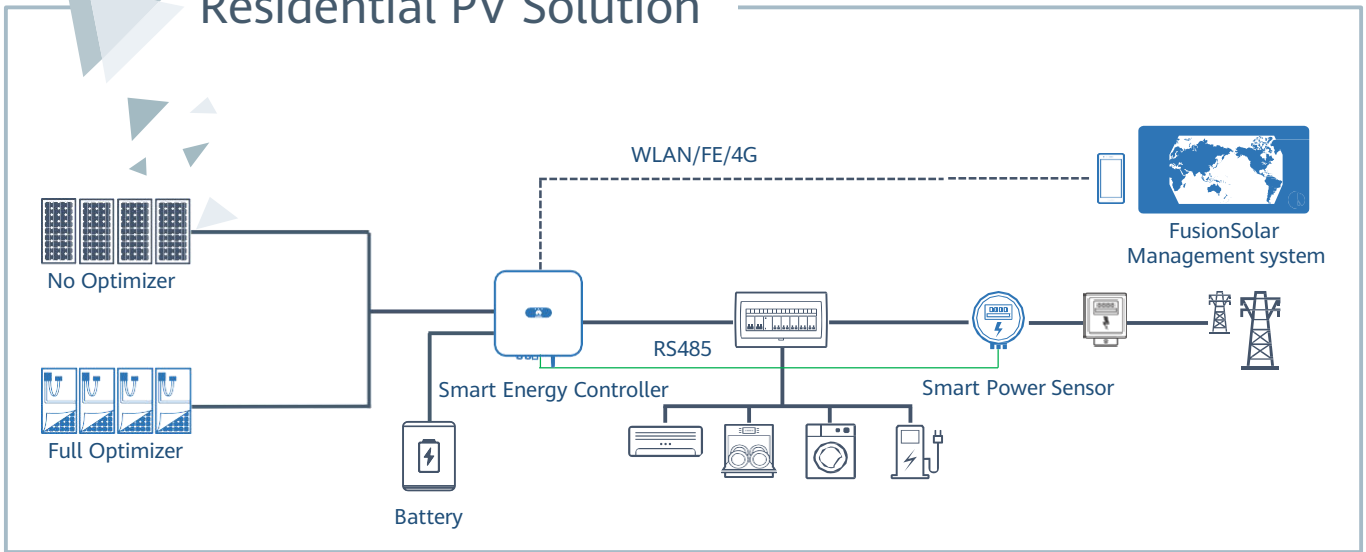


Research institutes
/labs/centers
14



160GW+
Accumulated global shipment
at the end of 2020

Residential PV Solution



Active Safety

AI Powered Active Arcing Protection

Pinpoint Arc Fault Positioning

Higher Yields

Up to 30% More Energy by Optimizers

2x POWER Battery Ready with More Energy

Better Experience

One-Fits-All Optimizer, Easier Business

Module Auto-Mapping within 5 sec



Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

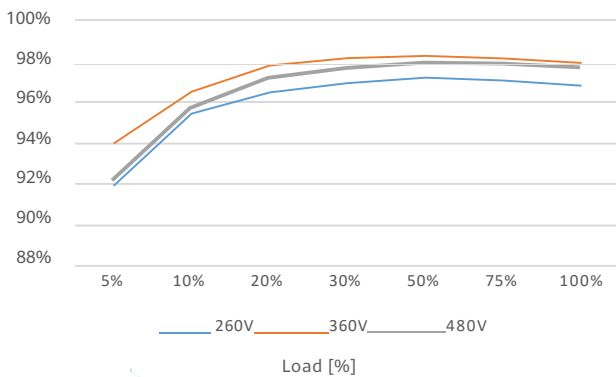
Up to 30% More
Energy with Optimizer



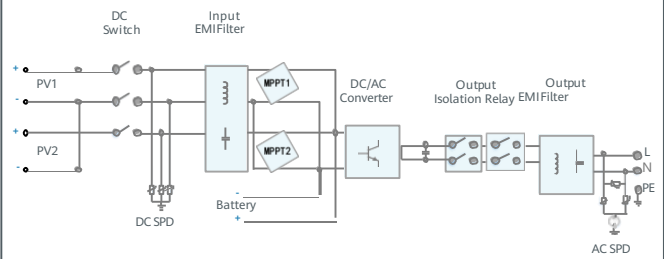
2x POWER Battery Ready

5KW AC Output plus
5KW Battery Charge

Efficiency Curve



Circuit Diagram



SUN2000-2/3/3.68/4/4.6/5/6KTL-L1

SUN2000-2/3/4/4.6/5/6KTL-L1 Technical Specification

| Technical Specification | SUN2000 -2KTL-L1 | SUN2000 -3KTL-L1 | SUN2000 -4KTL-L1 | SUN2000 -4.6KTL-L1 | SUN2000 -5KTL-L1 | SUN2000 -6KTL-L1 ¹ |
|-------------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|----------------------------------|
|-------------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|----------------------------------|

Efficiency

| | | | | | | |
|------------------------------|-------|--------|--------|--------|--------|-------|
| Max. efficiency | 98.2% | 98.3 % | 98.4 % | 98.4 % | 98.4 % | 98.4% |
| European weighted efficiency | 96.7% | 97.3 % | 97.5 % | 97.7 % | 97.8 % | 97.8% |

Input (PV)

| | | | | | | |
|--|---------------------------|----------|----------|----------|----------|----------|
| Recommended max. PV power ² | 3,000 Wp | 4,500 Wp | 6,000 Wp | 6,900 Wp | 7,500 Wp | 9,000 Wp |
| Max. input voltage | 600 V ³ | | | | | |
| Start-up voltage | 100 V | | | | | |
| MPPT operating voltage range | 90 V – 560 V ³ | | | | | |
| Rated input voltage | 360 V | | | | | |
| Max. input current per MPPT | 12.5 A | | | | | |
| Max. short-circuit current | 18 A | | | | | |
| Number of MPP trackers | 2 | | | | | |
| Max. number of inputs | 2 | | | | | |

Input (DC Battery)

| | | | | | | |
|----------------------------|--------------------------------|---------|---------|---------|---------|---------|
| Compatible Battery | LG Chem RESU 7H_R / 10H_R | | | | | |
| Operating voltage range | 350 ~ 450 Vdc | | | | | |
| Max operating current | 10 A @7H_R / 15 A @10H_R | | | | | |
| Max charge power | 3,500 W @7H_R / 5,000 W @10H_R | | | | | |
| Max discharge Power @7H_R | 2,200 W | 3,300 W | 3,500 W | 3,500 W | 3,500 W | 3,500 W |
| Max discharge Power @10H_R | 2,200 W | 3,300 W | 4,400 W | 4,600 W | 5,000 W | 5,000 W |

| | | | | | | |
|-------------------------|--|---------|---------|---------|---------|---------|
| Compatible Battery | HUAWEI Smart ESS Battery 5kWh – 30kWh ¹ | | | | | |
| Operating voltage range | 350 ~ 560 Vdc | | | | | |
| Max operating current | 15 A | | | | | |
| Max charge power | 5,000 W ⁴ | | | | | |
| Max discharge power | 2,200 W | 3,300 W | 4,400 W | 4,600 W | 5,000 W | 5,000 W |

Output

| | | | | | | |
|--------------------------------|---|----------|----------|----------|-----------------------|----------|
| Grid connection | Single phase | | | | | |
| Rated output power | 2,000 W | 3,000 W | 4,000 W | 4,600 W | 4,991 W ⁵ | 6,000 W |
| Max. apparent power | 2,200 VA | 3,300 VA | 4,400 VA | 4,999 VA | 4,999 VA ⁶ | 6,000 VA |
| Rated output voltage | 220 Vac / 230 Vac / 240 Vac | | | | | |
| Rated AC grid frequency | 50 Hz / 60 Hz | | | | | |
| Max. output current | 10 A | 15 A | 20 A | 20.9 A | 21.7 A ⁷ | 27.3 A |
| Adjustable power factor | 0.8 leading ... 0.8 lagging | | | | | |
| Max. total harmonic distortion | ≤ 3 % | | | | | |
| Backup power output | Yes (via Backup Box-5000 ¹) | | | | | |

Protection & Feature

| | |
|------------------------------------|--|
| Anti-Islanding protection | Yes |
| DC reverse polarity protection | Yes |
| Insulation monitoring | Yes |
| DC surge protection | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 |
| AC surge protection | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 |
| Residual current monitoring | Yes |
| AC overcurrent protection | Yes |
| AC short-circuit protection | Yes |
| AC overvoltage protection | Yes |
| Over-heat protection | Yes |
| Arc fault protection | Yes |
| Battery reverse charging from grid | Yes |

General Data

| | |
|------------------------------------|--|
| Operating temperature range | -25 ~ +60 °C (Derating above 45 °C @ Rated output power) |
| Relative operating humidity | 0 %RH ~ 100 %RH |
| Operating altitude | 0 ~ 4,000 m (Derating above 2,000 m) |
| Cooling | Natural convection |
| Display | LED indicators; integrated WLAN + FusionSolar APP |
| Communication | RS485, WLAN via inverter built-in WLAN module Ethernet via Smart Dongle-WLAN-FE (Optional); 4G / 3G / 2G via Smart Dongle-4G (Optional) |
| Weight (incl. mounting bracket) | 12.0 kg (26.5 lb) |
| Dimension (incl. mounting bracket) | 365mm * 365mm * 156 mm (14.4 x 14.4 x 6.1 inch) |
| Degree of protection | IP65 |

Optimizer Compatibility

| | |
|------------------------------|----------------|
| DC MBUS compatible optimizer | SUN2000-450W-P |
|------------------------------|----------------|

Standard Compliance (more available upon request)

| | |
|---------------------------|---|
| Safety | EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116 |
| Grid connection standards | AS/NZS 4777:2015 |

¹ Available in 2020Q3.

² Inverter max input PV power is 10,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers. Only recommended max PV power, if the string design is under voltage and current limit of MPPT, higher oversizing is also acceptable.

³ The maximum input voltage and operating voltage upper limit will be reduced to 495 V when inverter connects and works with LG battery.

⁴ 2,500 W @ 5kWh HUAWEI ESS battery

⁵ AS4777: 4999W, ⁶ AS4777: 4999VA, ⁷ AS4777: 21.7A.

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



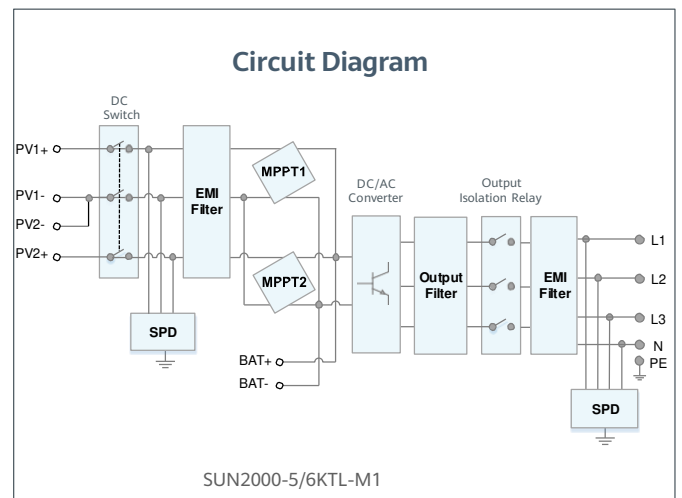
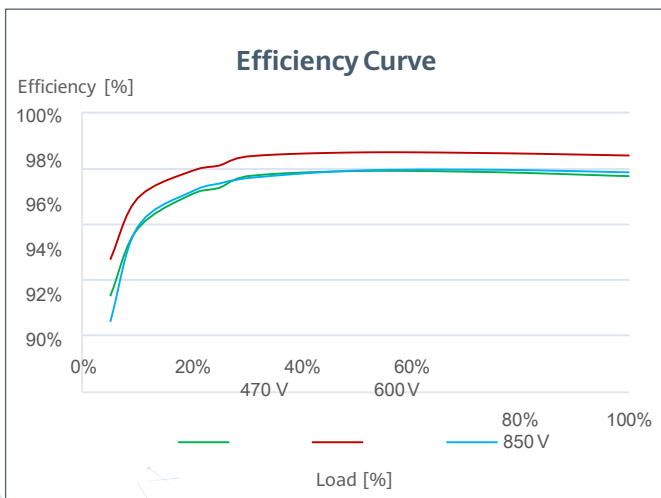
Higher Yields

Up to 30% More Energy
with Full Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



SUN2000-5/6KTL-M1
Technical Specification

| Technical Specification | SUN2000-5KTL-M1 | SUN2000-6KTL-M1 |
|--|--|-----------------|
| Efficiency | | |
| Max. efficiency | 98.4% | 98.6% |
| European weighted efficiency | 97.5% | 97.7% |
| Input (PV) | | |
| Recommended max. PV power ¹ | 7,500 Wp | 9,000 Wp |
| Max. input voltage ² | 1,100 V | |
| Operating voltage range ³ | 140 V ~ 980 V | |
| Start-up voltage | 200 V | |
| Rated input voltage | 600 V | |
| Max. input current per MPPT | 11 A | |
| Max. short-circuit current | 15 A | |
| Number of MPP trackers | 2 | |
| Max. number of inputs | 2 | |
| Input (DC Battery) | | |
| Compatible Battery | HUAWEI Smart ESS Battery 5kWh – 30kWh | |
| Max number of connected battery | 2 | |
| Voltage range | 600 V ~ 980 V | |
| Max Input current | 16.7 A | |
| Max charge Power | 10,000 W | |
| Max discharge Power | 5,000 W | 6,000 W |
| Output | | |
| Grid connection | Three-phase | |
| Rated output power | 5,000 W | 6,000 W |
| Max. apparent power | 5,500 VA | 6,600 VA |
| Rated output voltage | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE | |
| Rated AC grid frequency | 50 Hz / 60 Hz | |
| Max. output current | 8.5 A | 10.1 A |
| Adjustable powerfactor | 0.8 leading ... 0.8lagging | |
| Max. total harmonic distortion | ≤ 3 % | |
| Backup poweroutput | Yes (via Backup Box-B1) | |
| Features & Protections | | |
| Input-side disconnection device | Yes | |
| Anti-Islanding protection | Yes | |
| DC reverse polarity protection | Yes | |
| Insulation monitoring | Yes | |
| DC surge protection | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 | |
| AC surge protection | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 | |
| Residual current monitoring | Yes | |
| AC overcurrent protection | Yes | |
| AC short-circuit protection | Yes | |
| AC overvoltage protection | Yes | |
| Arc fault protection | Yes | |
| Ripple receiver control | Yes | |
| Integrated PID recovery ⁴ | Yes | |
| Battery reverse charging from grid | Yes | |
| General Data | | |
| Operating temperature range | -25 ~ + 60 °C (-13 °F ~ 140 °F) | |
| Relative operating humidity | 0 %RH ~ 100 %RH | |
| Operating altitude | 0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m) | |
| Cooling | Natural convection | |
| Display | LED Indicators; Integrated WLAN + FusionSolar App | |
| Communication | RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional) | |
| Weight (incl. mounting bracket) | 17 kg (37.5lb) | |
| Dimension (incl. mounting bracket) | 525 x 470 x 146.5 mm (20.7 x 18.5 x 5.8 inch) | |
| Degree of protection | IP65 | |
| Optimizer Compatibility | | |
| DC MBUS compatible optimizer | SUN2000-450W-P | |
| Standard Compliance (more available upon request) | | |
| Certificate | EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116 | |
| Grid connection standards | AS/NZS4777:2015 | |

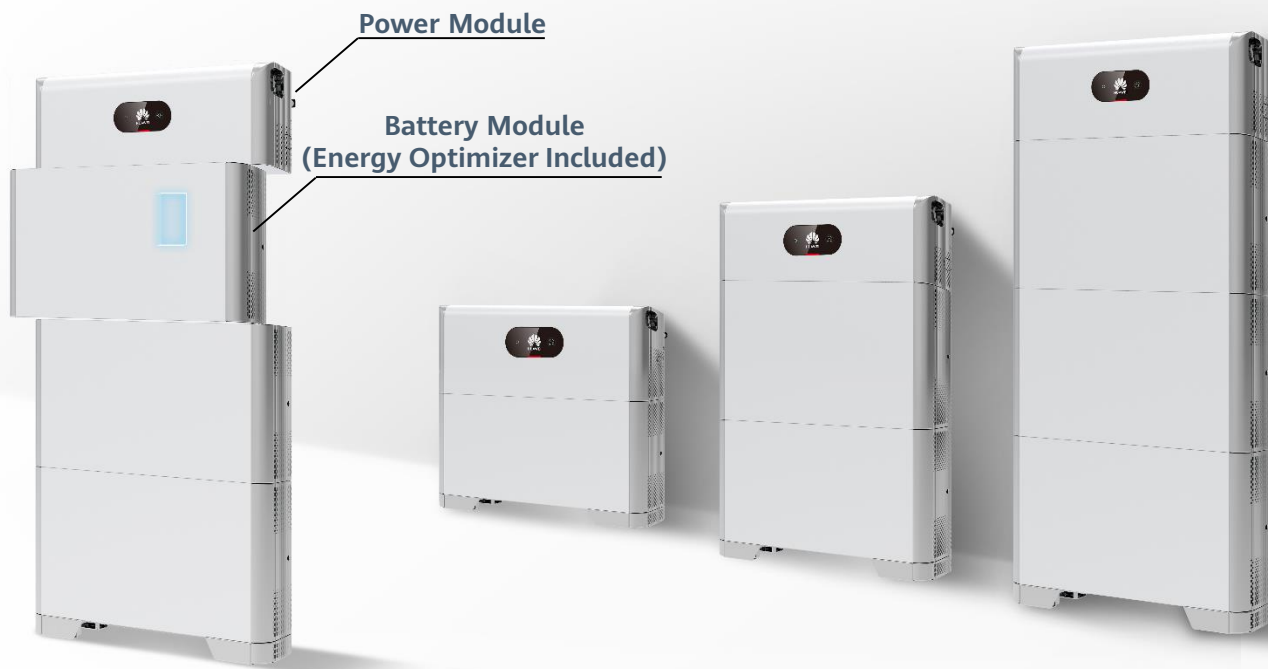
*1 Inverter max input PV power is 20,000Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

*2 The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter. Please limit input voltage to maximum 600Vdc according to AS/NZS 4777.1:2016

*3 Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

*4 SUN2000-5-6KTL-M1 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly)..

Smart String Energy Storage System



More Usable Energy

100% Depth of Discharge
Pack Level Energy Optimization



Flexible Investment

5kWh Modular Design,
Scalable from 5 to 30 kWh



Safe & Reliable

Lithium Iron Phosphate (LFP) Cell



Easy Installation

12 kg Power Module
50 kg Battery Module



Quick Commissioning

Automatically Detected in App

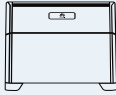




Perfect Compatibility

Compatible to Both Residential
Single & Three Phase Inverter

LUNA2000-5/10/15-S0

Technical Specification

| Technical Specification | LUNA2000-5-S0 | LUNA2000-10-S0 | LUNA2000-15-S0 |
|-------------------------|---|--|---|
| |  |  |  |

| Performance | | | |
|---|-----------------|------------|------------|
| Power module | LUNA2000-5KW-C0 | | |
| Number of power modules | 1 | | |
| Battery module | LUNA2000-5-E0 | | |
| Battery module energy | 5 kWh | | |
| Number of battery Modules | 1 | 2 | 3 |
| Battery usable energy ¹ | 5 kWh | 10 kWh | 15 kWh |
| Max. output power | 2.5 kW | 5 kW | 5 kW |
| Peak output power | 3.5 kW, 10 s | 7 kW, 10 s | 7 kW, 10 s |
| Nominal voltage (single phase system) | 450 V | | |
| Operating voltage range (single phase system) | 350 – 560 V | | |
| Nominal voltage (three phase system) | 600 V | | |
| Operating voltage range (three phase system) | 600 – 980 V | | |

| Communication | |
|---------------|---|
| Display | SOC status indicator, LED indicator |
| Communication | RS485 / CAN (only for parallel operation) |

| General Specification | | | |
|---------------------------------------|---|--|---|
| Dimension (W*D*H) | 670 * 150 * 600 mm (26.4 * 5.9 * 23.6 inch) | 670 * 150 * 960 mm (26.4 * 5.9 * 37.8 inch) | 670 * 150 * 1320 mm (26.4 * 5.9 * 60.0 inch) |
| Weight (Floor stand toolkit included) | 63.8 kg (140.7 lb) | 113.8 kg (250.9 lb) | 163.8 kg (361.1 lb) |
| Power module dimension (W*D*H) | 670 * 150 * 240 mm (26.4 * 5.9 * 9.4 inch) | | |
| Power module weight | 12 kg (26.5 lb) | | |
| Battery module dimension (W*D*H) | 670 * 150 * 360 mm (26.4 * 5.9 * 14.0 inch) | | |
| Battery module weight | 50 kg (110.2 lb) | | |
| Installation | Floor stand (standard), Wall mount (optional) | | |
| Operating temperature | -20°C ~ + 55°C (-4°F ~ 131°F) ² | | |
| Operating altitude | 0 - 4,000 m (13,123 ft.) (Derating above 2,000 m) | | |
| Environment | Indoor / Outdoor | | |
| Relative humidity | 5% ~ 95% | | |
| Cooling | Natural convection | | |
| Protection rating | IP 66 | | |
| Noise emission | <29 dB | | |
| Cell technology | Lithium-iron phosphate (LiFePO4) | | |
| Scalability | Max. 2 systems in parallel operation | | |
| Compatible inverters | SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M0 ⁴ , SUN2000-3/4/5/6/8/10KTL-M1 | | |

| Standard Compliance (more available upon request) | |
|---|---|
| Certificates | CE, RCM, CEC, VDE2510-50, IEC62619, IEC 60730, UN38.3 |

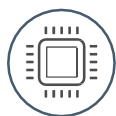
| Ordering and Deliverable Part | |
|-------------------------------------|--|
| Product ordering model ⁵ | LUNA2000-5KW-C0, LUNA2000-5-E0, LUNA2000 Wall Mounting Bracket |

1. Test conditions: 100% depth of discharge (DoD), 0.2C rate charge & discharge at 25°C
2. Charge/discharge derating occurs when the operating temperature from -20°C to 5 °C.& 45 °C to 55 °C.
3. Refer to battery warranty letter for conditional application.
4. Available in Q1, 2021
5. Storage system is ordered and delivered in the form of power module and battery module separately with corresponding quantity.

Smart PV Optimizer



One-Fits-All Optimizer
Easier Business



<1.5 min Pairing with Inverter



<5s Module Auto-Mapping



Arc Fault Pinpoint
Positioning

| Technical Specification | SUN2000-450W-P |
|-------------------------|----------------|
|-------------------------|----------------|

| | Input |
|-------------------------------------|----------|
| Rated Input DC Power ¹ | 450 W |
| Absolute maximum input voltage | 80 V |
| MPPT operating voltage range | 8 - 80 V |
| Maximum Short Circuit Current (Isc) | 13 A |
| Max. efficiency | 99.5 % |
| Weighted efficiency | 99.0 % |
| Overvoltage category | II |

| | Output |
|--|---------------|
| Max. output voltage | 80 V |
| Max. output current | 15 A |
| Output bypass ² | Yes |
| Shutdown output voltage per optimizer ³ | 0 V |
| Shutdown output impedance per optimizer | 1k ohm ± 10 % |

| | Standard Compliance |
|--------|------------------------------|
| Safety | IEC62109-1 (class II safety) |
| RoHS | Yes |

| | General Data |
|--|---|
| Dimension (W x H x D) | 71 x 138 x 25 mm (2.8 x 5.4 x 1.0 inch) |
| Weight (including cables) | 0.55 kg (1.2 lb.) |
| Installation part (optional) | Grounding Plate, Grounding Lug, PV Module Frame Plate |
| Input connector | MC4 |
| Output connector | MC4 |
| Output wire length | 1.2 m (3.9 ft.) ⁴ |
| Operating temperature / humidity range | -40 °C ~ 85 °C ⁵ / 0 %RH ~ 100 %RH |
| Degree of protection | IP68 |
| Compatible product | SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-5/6KTL-M1, SUN2000-8/10/12/15/17/20KTL-M2 |

| Long String Design (Full Optimizer) | SUN2000-2-6KTL-L1 | SUN2000-5-6KTL-M1 | SUN2000-8-20KTL-M2 |
|-------------------------------------|-------------------|-------------------|--------------------|
| Minimum optimizer number per string | 4 | 6 | 6 |
| Maximum optimizer number per string | 25 | 50 | 50 |
| Maximum DC power per string | 5,000 W | 10,000 W | 10,000 W |

¹ Rated power of the module at STC shall not exceed "Rated Input DC Power" of power optimizer. Modules with power up to +5% power tolerance are acceptable.

² Power optimizer is bypassed in the string connected to an operating inverter when it fails to work

³ Power optimizer output 0Vdc when disconnecting to the inverter or inverter is shutdown.

⁴ Fits PV module in landscape and portrait installation.

⁵ Full power capability refers to online smart design tool.

Backup Box



Simple

Automatic detection & switchover



Reliable

Provide reliable backup power

| Technical Specification | Backup Box-B0 | Backup Box-B1 |
|------------------------------|---|----------------------------|
| AC Output (On grid) | | |
| Grid connection | Single Phase | Three Phase |
| Rated voltage | 220 V / 230 V | 380 V / 400 V |
| AC frequency | 50Hz / 60Hz | |
| AC output voltage range | 198 V ~ 253 V | 342 V ~ 440 V |
| AC Output (Backup) | | |
| Load connection | Single Phase | Single Phase |
| Rated voltage | 220 V / 230 V | 220 V / 230 V |
| AC frequency | 50Hz / 60Hz | |
| Maximum apparent power | 5,000 VA | 3,300 VA |
| Maximum output current | 22.7 A | 15.2 A |
| Switchover time | <3 s | |
| AC Input (Inverter) | | |
| Rated voltage | 220 V / 230 V | 380 V / 400 V |
| AC frequency | 50Hz / 60Hz | |
| Compatible inverter | SUN2000-2/3/3.68/4/4.6/5/6KTL-L1 | SUN2000-3/4/5/6/8/10KTL-M1 |
| General Specification | | |
| Operating temperature range | -20 °C to +45 °C (-4 °F to 113 °F) | |
| Relative humidity range | 0 %RH~100 %RH | |
| Dimensions (W * H * D) | 400 x 350 x 130 mm (15.8 x 13.8 x 5.1 inch) | |
| Weight | 11 kg | |
| Degree of protection | IP 65 | |

Smart Power Sensor



Accurate

Class 1 measurement accuracy



Simple & Easy

LCD display, easy to set and check

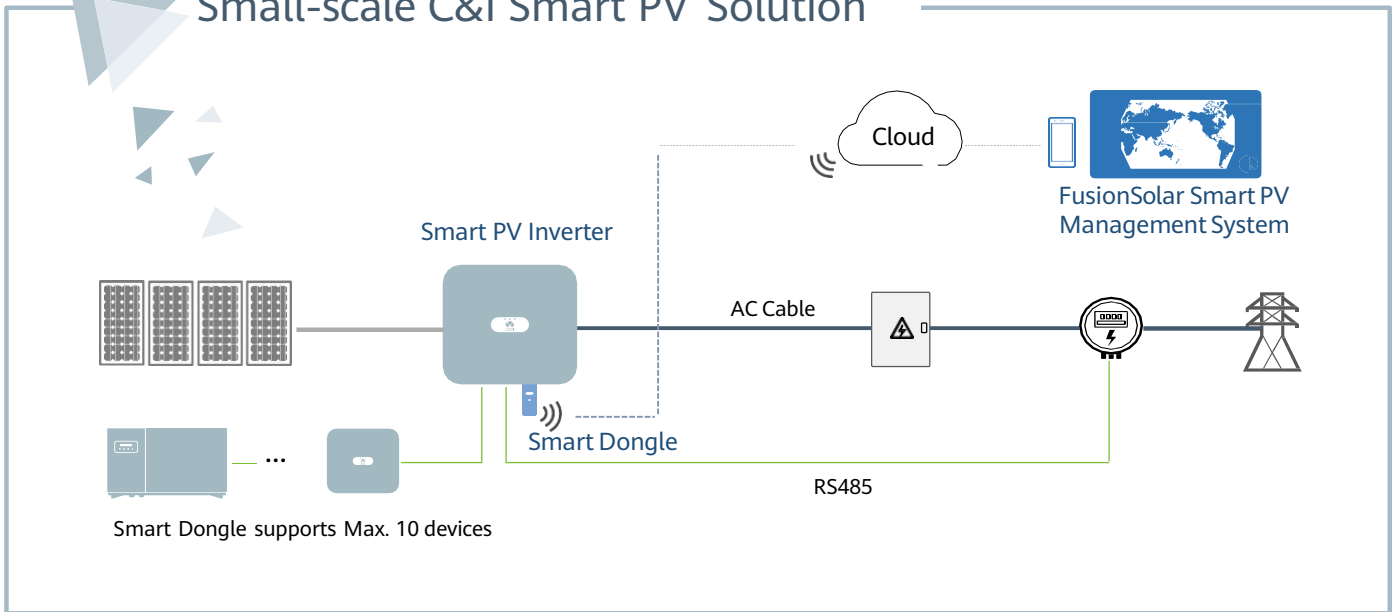


Energy Efficient

Overall power consumption ≤ 1 W

| Technical Specification | DDSU666-H | DTSU666-H | DTSU666-H 250A/50mA |
|-------------------------------|--|--|--|
| General Data | | | |
| Dimension (H x W x D) | 100 x 36 x 65.5 mm (3.9 x 1.4 x 2.6 inch) | 100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch) | 100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch) |
| Mounting type | DIN35 Rail | | |
| Weight (including cables) | 1.2 kg (2.6 lb) | 1.5 kg (3.3 lb) | 1.5 kg (3.3 lb) |
| Power Supply | | | |
| Power grid type | 1P2W | 3P4W | 3P4W/3P3W |
| Input voltage (phase voltage) | 176 Vac ~ 288 Vac | | |
| Power consumption | ≤ 0.8 W | ≤ 1 W | ≤ 1 W |
| Measurement Range | | | |
| Line voltage | / | 304 Vac ~ 499 Vac | 304 Vac ~ 499 Vac |
| Phase voltage | 176 Vac ~ 288 Vac | | |
| Current | 0 ~ 100 A | 0 ~ 100 A | 0 ~ 250 A |
| Measurement Accuracy | | | |
| Voltage | ± 0.5 % | | |
| Current / Power / Energy | ± 1 % | | |
| Frequency | ± 0.01 Hz | | |
| Communication | | | |
| Interface | RS485 | | |
| Baud rate | 9,600 bps | | |
| Communication protocol | Modbus-RTU | | |
| Environment | | | |
| Operating temperature range | -25 °C ~ 60 °C | | |
| Storage temperature range | -40 °C ~ 70 °C | | |
| Operating humidity | 5 %RH ~ 95 %RH (non-condensing) | | |
| Others | | | |
| Accessories | RS485 Cable (10 m / 33 ft.) | | |
| | 1 CT 100A / 40mA (5 m / 16.4 ft.) | 3 CT 100A / 40mA (5 m / 16.4 ft.) | 3 CT 250A / 50mA (5 m / 16.4 ft.) |
| | | | |

Small-scale C&I Smart PV Solution



Active Safety

AI Powered Active Arcing Protection

C&I Tailored Enhanced Arcing Protection

Higher Yields

2 Strings per MPPT, More Energy Yields

Built-in PID Recovery, Secure Better Module Performance

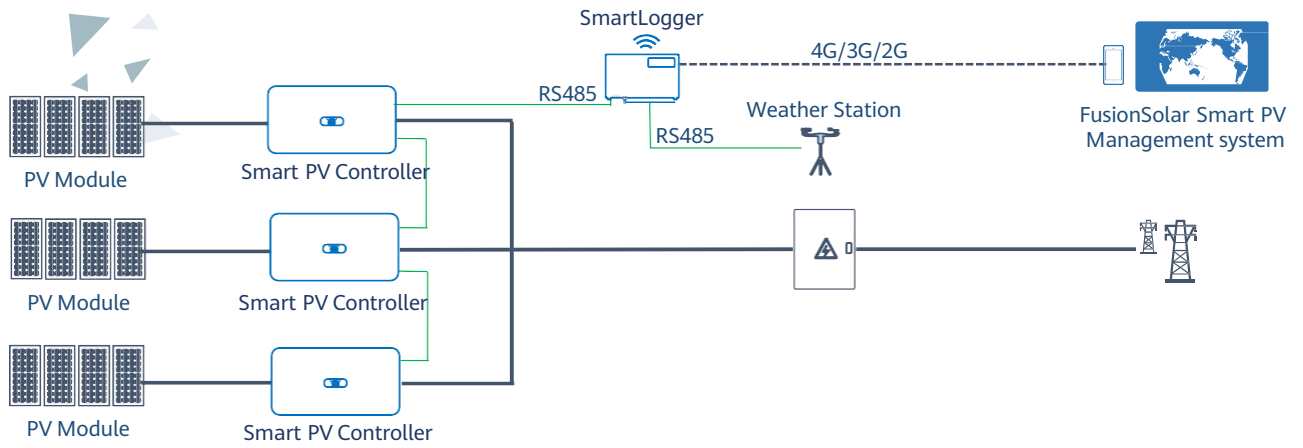
Maintenance Free

No Fuse & Other Quick-wear Parts, Inverter Touch Free

Online Smart I-V Curve Diagnosis, Module Touch Free



Large-scale C&I PV Solution



Active Safety

AI Powered Active Arcing Protection

C&I Tailored Enhanced Arcing Protection

Higher Yields

2 Strings per MPPT, More Energy Yields

Built-in PID Recovery, Secure Better Module Performance

Maintenance Free

No Fuse & Other Quick-wear Parts, Inverter Touch Free

Online Smart I-V Curve Diagnosis, Module Touch Free



Smart PV Controller



Active Safety

AI Powered Arcing Protection



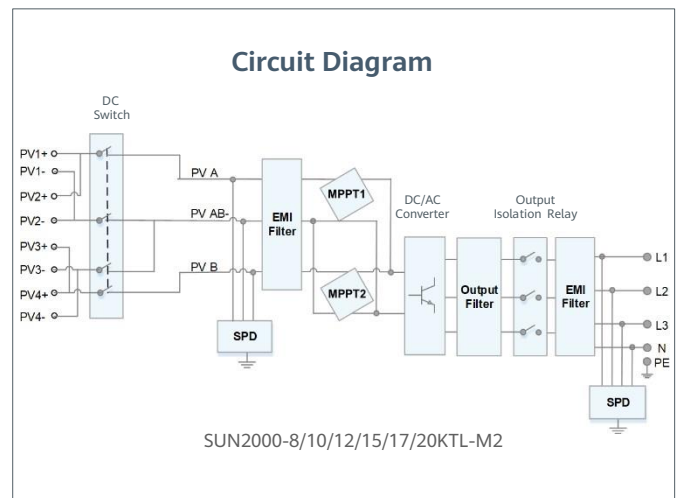
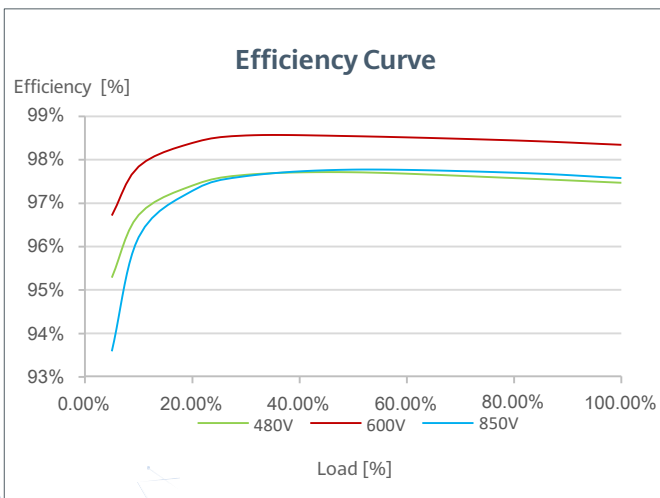
Higher Yields

Up to 30% More Energy with Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



SUN2000-8/10/12/15/17/20KTL-M2 Technical Specification

| Technical Specification | SUN2000-8KTL-M2 | SUN2000-10KTL-M2 | SUN2000-12KTL-M2 | SUN2000-15KTL-M2 | SUN2000-17KTL-M2 | SUN2000-20KTL-M2 |
|--|---|------------------|------------------|------------------|------------------|------------------|
| Efficiency | | | | | | |
| Max. efficiency | 98.50% | 98.50% | 98.50% | 98.65% | 98.65% | 98.65% |
| European weighted efficiency | 97.80% | 98.00% | 98.00% | 98.30% | 98.30% | 98.30% |
| Input | | | | | | |
| Recommended max. PV power ¹ | 12,000 Wp | 15,000 Wp | 18,000 Wp | 22,500 Wp | 25,500 Wp | 30,000 Wp |
| Max. input voltage ² | 1,080 V | | | | | |
| Operating voltage range ³ | 160 V ~ 950 V | | | | | |
| Start-up voltage | 200 V | | | | | |
| Rated input voltage | 600 V | | | | | |
| Max. input current per MPPT | 22 A | | | | | |
| Max. short-circuit current | 30 A | | | | | |
| Number of MPP trackers | 2 | | | | | |
| Max. number of inputs | 4 | | | | | |
| Output | | | | | | |
| Grid connection | Three phase | | | | | |
| Rated output power | 8,000 W | 10,000 W | 12,000 W | 15,000 W | 17,000 W | 20,000 W |
| Max. apparent power | 8,800 VA | 11,000 VA | 13,200 VA | 16,500 VA | 18,700 VA | 22,000 VA |
| Rated output voltage | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W + N + PE | | | | | |
| Rated AC grid frequency | 50 Hz / 60 Hz | | | | | |
| Max. output current | 13.4 A | 17 A | 20 A | 25.2 A | 28.5 A | 33.5 A |
| Adjustable power factor | 0.8 leading ... 0.8 lagging | | | | | |
| Max. total harmonic distortion | ≤ 3 % | | | | | |
| Features & Protections | | | | | | |
| Input-side disconnection device | Yes | | | | | |
| Anti-islanding protection | Yes | | | | | |
| AC over-current protection | Yes | | | | | |
| AC short-circuit protection | Yes | | | | | |
| AC over-voltage protection | Yes | | | | | |
| DC reverse-polarity protection | Yes | | | | | |
| DC surge protection | TYPE II | | | | | |
| AC surge protection | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 | | | | | |
| Residual current monitoring unit | Yes | | | | | |
| Arc fault protection | Yes | | | | | |
| Ripple receiver control | Yes | | | | | |
| Integrated PID recovery ⁴ | Yes | | | | | |
| General Data | | | | | | |
| Operation temperature range | -25 ~ +60 °C (-13 °F ~ 140 °F) | | | | | |
| Relative humidity | 0 % RH ~ 100% RH | | | | | |
| Max. operating altitude | 0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m) | | | | | |
| Cooling | Natural Convection | | | | | |
| Display | LED Indicators; Integrated WLAN + FusionSolar App | | | | | |
| Communication | RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional) | | | | | |
| Weight (with mounting plate) | 25 kg | | | | | |
| Dimensions (W x H x D) (incl. mounting plate) | 525 x 470 x 262 mm (20.7 x 18.5 x 10.3 inch) | | | | | |
| Degree of protection | IP65 | | | | | |
| Optimizer Compatibility | | | | | | |
| DC MBUS compatible optimizer | SUN2000-450W-P | | | | | |
| Standard Compliance (more available upon request) | | | | | | |
| Safety | EN/IEC 62109-1, EN/IEC 62109-2 | | | | | |
| Grid connection standards | G98, G99, EN 50549, CEI 0-21, CEI 0-16, VDE-AR-N-4105, VDE-AR-N-4110, AS 4777.2, C10/11, ABNT, VFR 2019, RD 1699, RD 661, PO 12.3, TOR D4, IEC61727, IEC62116, DEWA | | | | | |

¹ Inverter max input PV power is 40,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

² The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

³ Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

⁴ SUN2000-8-20KTL-M2 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly)

Smart PV Inverter



Smart

8 strings intelligent monitoring



Efficient

Max. efficiency 98.6%



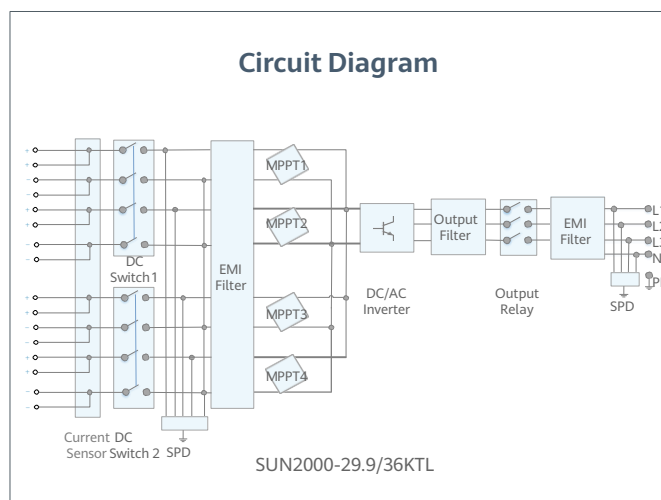
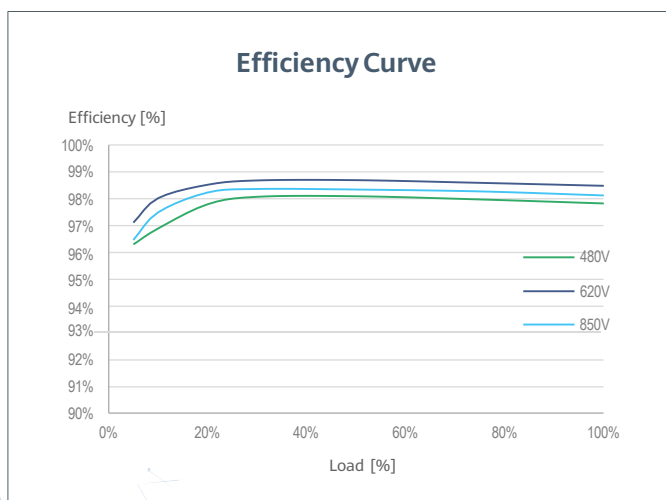
Safe

Fuse free design



Reliable

Type II surge arresters for both DC & AC



| | |
|--------------------------------|------------------------|
| Technical Specification | SUN2000-29.9KTL |
|--------------------------------|------------------------|

Efficiency

| | |
|---------------------|-------|
| Max. Efficiency | 98.6% |
| European Efficiency | 98.4% |

Input

| | |
|-------------------------------------|-----------------|
| Max. Input Voltage | 1,100 V |
| Max. Current per MPPT | 22 A |
| Max. Short Circuit Current per MPPT | 30 A |
| Start Voltage | 250 V |
| MPPT Operating Voltage Range | 200 V ~ 1,000 V |
| Rated Input Voltage | 620 V |
| Number of Inputs | 8 |
| Number of MPP Trackers | 4 |

Output

| | |
|--------------------------------|---|
| Rated AC Active Power | 29,900 W |
| Max. AC Apparent Power | 29,900 VA |
| Max. AC Active Power (cosφ=1) | 29,900 W |
| Rated Output Voltage | 220 V / 380 V, 230 V / 400 V, default 3W + N + PE; 3W + PE optional in settings |
| Rated AC Grid Frequency | 50 Hz / 60 Hz |
| Rated Output Current | 43.2 A |
| Max. Output Current | 43.2 A |
| 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 |
| PV-array String Fault Monitoring | Yes |
| DC Surge Arrester | Type II |
| AC Surge Arrester | Type II |
| DC Insulation Resistance Detection | Yes |
| Residual Current Monitoring Unit | Yes |

Communication

| | |
|-----------------------|---------------------------------|
| Display | LED Indicators, Bluetooth + APP |
| RS485 | Yes |
| USB | Yes |
| Monitoring BUS (MBUS) | Yes |

General Data

| | |
|------------------------------|--|
| Dimensions (W x H x D) | 930 x 550 x 283 mm (36.6 x 21.7 x 11.1 inch) |
| Weight (with mounting plate) | 62 kg (136.7 lb.) |
| Operating Temperature Range | -25°C ~ 60°C (-13°F ~ 140°F) |
| Cooling Method | Natural Convection |
| Max. Operating Altitude | 4,000 m (13,123 ft.) |
| Relative Humidity | 0 ~ 100% |
| DC Connector | Amphenol Helios H4 |
| AC Connector | Cable Gland + OT Terminal |
| Protection Degree | IP65 |
| Topology | Transformerless |
| Nighttime Power Consumption | < 2.5 W |

Standard Compliance (more available upon request)

| | |
|-------------|---|
| Certificate | EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116 |
| Grid Code | AS/NZS 4777:2015 |



SUN2000-29.9/36/40KTL-M3 Smart PV Controller



Smart

8 PVs intelligent monitoring



Efficient

Max. efficiency 98.7%



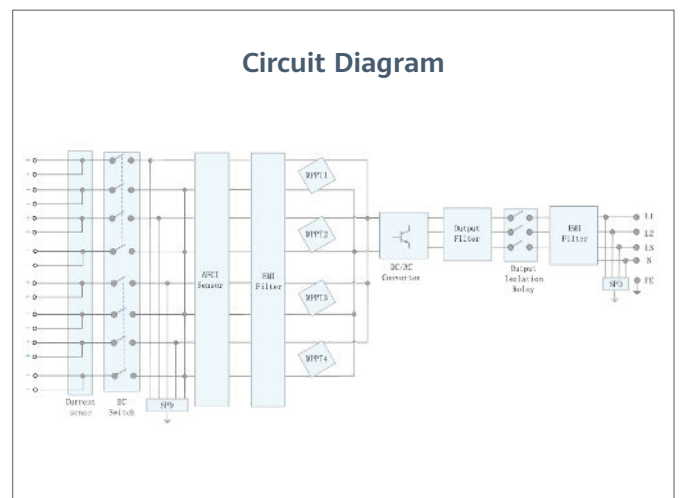
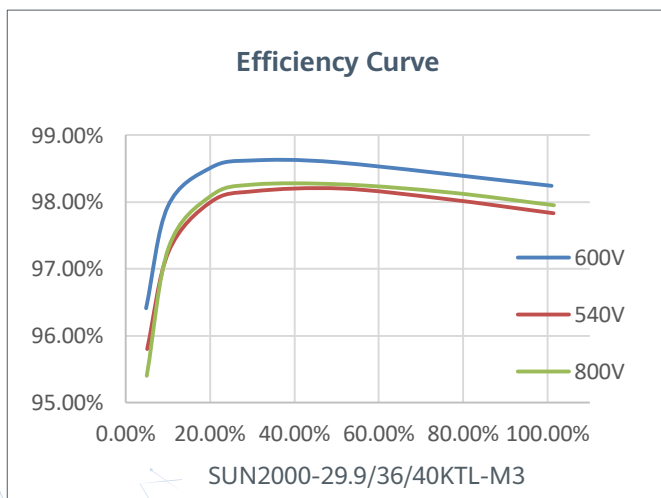
Safe

Fuse free design



Reliable

Type II surge arresters for DC & AC



SUN2000-29.9/36/40KTL-M3 Technical Specification

| Technical Specification | SUN2000-29.9KTL-M3 | SUN2000-36KTL-M3 | SUN2000-40KTL-M3 |
|--|--|------------------|------------------|
| Efficiency | | | |
| Max. Efficiency | 98.7% | | |
| European Efficiency | 98.4% | | |
| Input | | | |
| Max. Input Voltage ¹ | 1,100 V | | |
| Max. Current per MPPT | 26 A | | |
| Max. Short Circuit Current per MPPT | 40 A | | |
| Start Voltage | 200 V | | |
| MPPT Operating Voltage Range ² | 200 V ~ 1000 V | | |
| Rated Input Voltage | 600 V | | |
| Number of Inputs | 8 | | |
| Number of MPP Trackers | 4 | | |
| Output | | | |
| Rated AC Active Power | 29,900 W | 36,000 W | 40,000 W |
| Max. AC Apparent Power | 29,900 VA | 40,000 VA | 44,000 VA |
| Rated Output Voltage | 230 Vac / 400 Vac, 3W/N+PE | | |
| Rated AC Grid Frequency | 50 Hz / 60 Hz | | |
| Rated Output Current | 43.2 A | 52.0 A | 57.8 A |
| Max. Output Current | 43.2 A | 58.0 A | 63.8 A |
| Adjustable Power Factor Range | 0.8 LG ... 0.8 LD | | |
| Max. Total Harmonic Distortion | < 3% | | |
| Protection | | | |
| Input-side Disconnection Device | Yes | | |
| Anti-islanding Protection | Yes | | |
| AC Overcurrent Protection | Yes | | |
| DC Reverse-polarity Protection | Yes | | |
| PV-array String Fault Monitoring | Yes | | |
| DC Surge Arrester | Yes | | |
| AC Surge Arrester | Yes | | |
| DC Insulation Resistance Detection | Yes | | |
| Residual Current Monitoring Unit | Yes | | |
| Arc Fault Protection | Yes | | |
| Ripple Receiver Control | Yes | | |
| Integrated PID Recovery ³ | Yes | | |
| Communication | | | |
| Display | LED Indicators, Integrated WLAN + FusionSolar APP | | |
| RS485 | Yes | | |
| Smart Dongle | WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional) | | |
| Monitoring BUS (MBUS) | Yes (Isolation Transformer required) | | |
| General Data | | | |
| Dimensions (W x H x D) | 640 x 530 x 270 mm (25.2 x 20.9 x 10.6 inch) | | |
| Weight (with mounting plate) | 43 kg (94.8 lb) | | |
| Nosie Level | < 46 dB | | |
| Operating Temperature Range | -25 ~ + 60 °C (-13 °F ~ 140 °F) | | |
| Cooling Method | Natural Convection | | |
| Max. Operating Altitude | 0 - 4,000 m (13,123 ft.) | | |
| Relative Humidity | 0% RH ~ 100% RH | | |
| DC Connector | Staubli MC4 | | |
| AC Connector | Waterproof Connector + OT/DT Terminal | | |
| Protection Degree | IP 66 | | |
| Topology | Transformerless | | |
| Nighttime Power Consumption | ≤5.5W | | |
| Optimizer Compatibility | | | |
| DC MBUS Compatible Optimizer | SUN2000-450W-P | | |
| Standard Compliance (more available upon request) | | | |
| Safety | EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 60068, IEC 61683 | | |
| Grid Connection Standards | IEC 61727, AS/NZS 4777.2 | | |

1. The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

2. Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

3. SUN2000-29.9-40KTL-M3 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly), N-type (nPERT, HIT)

Smart PV Inverter



Smart

Smart I-V Curve Diagnosis supported



Efficient

Max. efficiency 98.7%



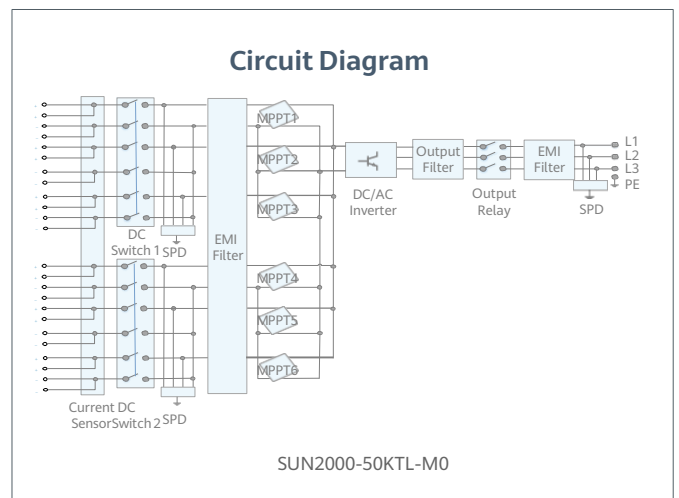
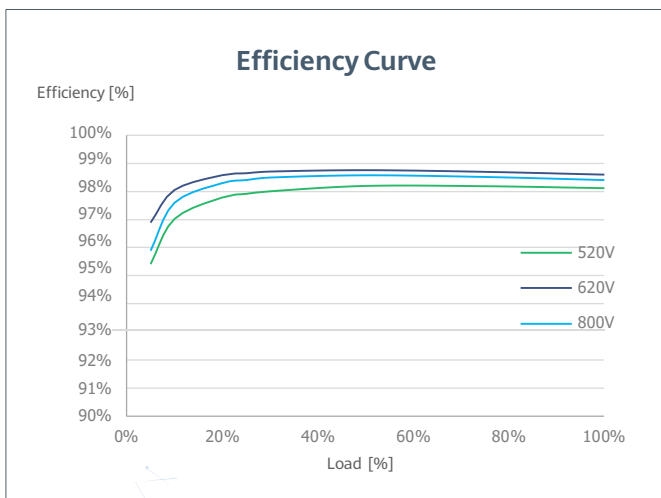
Safe

Fuse free design



Reliable

Type II surge arresters for DC & AC



| | |
|-------------------------|------------------|
| Technical Specification | SUN2000-50KTL-M0 |
|-------------------------|------------------|

| Efficiency | |
|---------------------|-------|
| Max. Efficiency | 98.7% |
| European Efficiency | 98.5% |

| Input | |
|-------------------------------------|-----------------|
| Max. Input Voltage | 1,100 V |
| Max. Current per MPPT | 22 A |
| Max. Short Circuit Current per MPPT | 30 A |
| Start Voltage | 200 V |
| MPPT Operating Voltage Range | 200 V ~ 1,000 V |
| Rated Input Voltage | 600 V |
| Number of Inputs | 12 |
| Number of MPP Trackers | 6 |

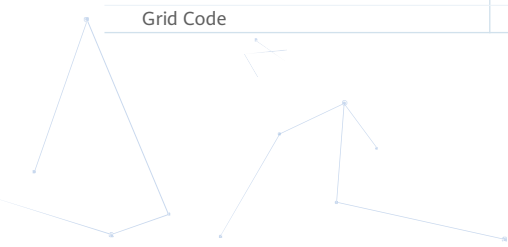
| Output | |
|--------------------------------|--|
| Rated AC Active Power | 50,000 W |
| Max. AC Apparent Power | 55,000 VA |
| Max. AC Active Power (cosφ=1) | 55,000 W |
| Rated Output Voltage | 220 V / 230 V, default 3W + N + PE; 380 V / 400 V, 3W + PE |
| Rated AC Grid Frequency | 50 Hz / 60 Hz |
| Rated Output Current | 76 A @380 V / 72.2 A @400 V |
| Max. Output Current | 83.6 A @380 V / 79.4 A @400 V |
| Adjustable Power Factor Range | 0.8 LG ... 0.8 LD |
| Max. Total Harmonic Distortion | <3% |

| Protection | |
|------------------------------------|---------|
| Input-side Disconnection Device | Yes |
| Anti-islanding Protection | Yes |
| AC Overcurrent Protection | Yes |
| DC Reverse-polarity Protection | Yes |
| PV-array String Fault Monitoring | Yes |
| DC Surge Arrester | Type II |
| AC Surge Arrester | Type II |
| DC Insulation Resistance Detection | Yes |
| Residual Current Monitoring Unit | Yes |

| Communication | |
|-----------------------|---------------------------------|
| Display | LED Indicators, Bluetooth + APP |
| RS485 | Yes |
| USB | Yes |
| Monitoring BUS (MBUS) | Yes |

| General Data | |
|------------------------------|--|
| Dimensions (W x H x D) | 1,075 x 555 x 300 mm (42.3 x 21.9 x 11.8 inch) |
| Weight (with mounting plate) | 74 kg (163.1 lb.) |
| Operating Temperature Range | -25°C ~ 60°C (-13°F ~ 140°F) |
| Cooling Method | Natural Convection |
| Max. Operating Altitude | 4,000 m (13,123 ft.) |
| Relative Humidity | 0 ~ 100% |
| DC Connector | Amphenol Helios H4 |
| AC Connector | Cable Gland + OT Terminal |
| Protection Degree | IP65 |
| Topology | Transformerless |
| Nighttime Power Consumption | < 2 W |

| Standard Compliance (more available upon request) | |
|---|--|
| Certificate | N/IEC 62109-1, EN/IEC 62109-2, IEC 62116 |
| Grid Code | AS/NZS 4777:2015 |



Smart PV Controller



Smart

Smart I-V Curve Diagnosis supported



Efficient

Max. efficiency 98.8%



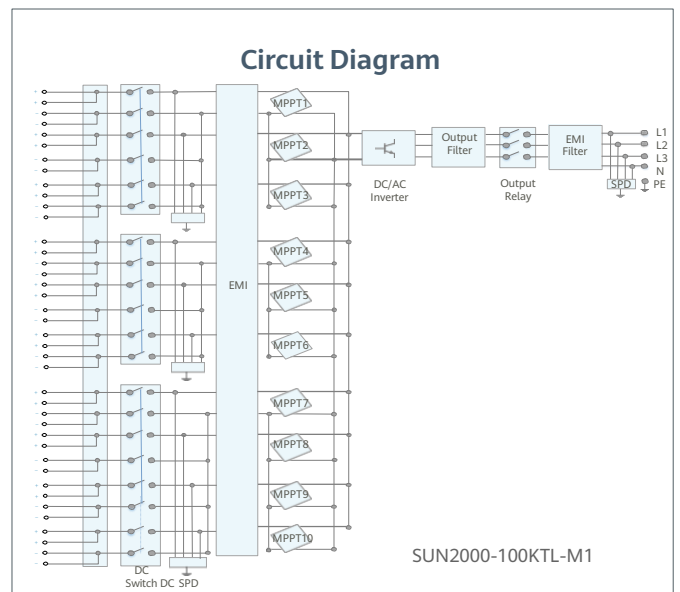
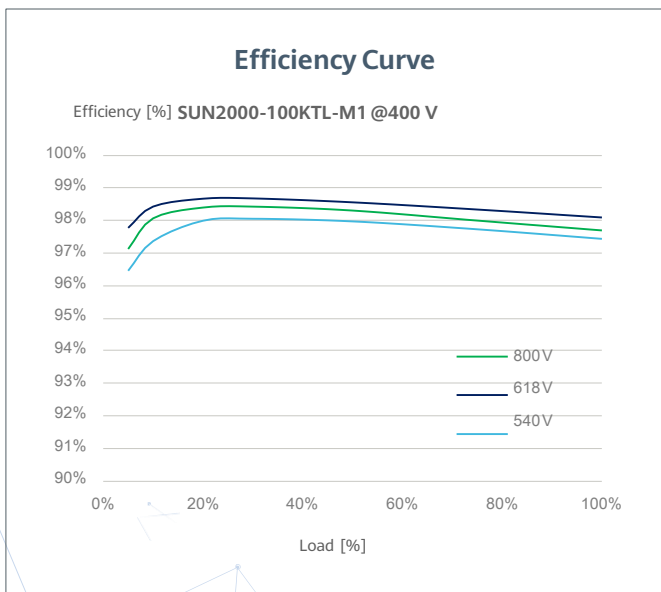
Safe

Fuse free design



Reliable

Type II surge arresters for DC & AC



| | |
|--------------------------------|--------------------------|
| Technical Specification | SUN2000-100KTL-M1 |
|--------------------------------|--------------------------|

| Efficiency | |
|---------------------|----------------------------------|
| Max. Efficiency | 98.8% @480 V; 98.6% @380 V/400 V |
| European Efficiency | 98.6% @480 V; 98.4% @380 V/400 V |

| Input | |
|-------------------------------------|--|
| Max. Input Voltage | 1,100 V |
| Max. Current per MPPT | 26 A |
| Max. Short Circuit Current per MPPT | 40 A |
| Start Voltage | 200 V |
| MPPT Operating Voltage Range | 200 V ~ 1,000 V |
| Rated Input Voltage | 570 V @380 V; 600 V @400 V; 720 V @480 V |
| Number of Inputs | 20 |
| Number of MPP Trackers | 10 |

| Output | |
|--------------------------------|--|
| Rated AC Active Power | 100,000 W (380 V / 400 V / 480 V @40°C) |
| Max. AC Apparent Power | 110,000 VA |
| Max. AC Active Power (cosφ=1) | 110,000 W |
| Rated Output Voltage | 220 V / 230 V, default 3W + N + PE; 380 V / 400 V / 480 V, 3W + PE |
| Rated AC Grid Frequency | 50 Hz / 60 Hz |
| Rated Output Current | 152.0 A @380 V; 144.4 A @400 V; 120.3 A @480 V |
| Max. Output Current | 168.8 A @380 V; 160.4 A @400 V; 133.7 A @480 V |
| Adjustable Power Factor Range | 0.8 LG ... 0.8 LD |
| Max. Total Harmonic Distortion | <3% |

| Protection | |
|------------------------------------|---------|
| Input-side Disconnection Device | Yes |
| Anti-islanding Protection | Yes |
| AC Overcurrent Protection | Yes |
| DC Reverse-polarity Protection | Yes |
| PV-array String Fault Monitoring | Yes |
| DC Surge Arrester | Type II |
| AC Surge Arrester | Type II |
| DC Insulation Resistance Detection | Yes |
| Residual Current Monitoring Unit | Yes |

| Communication | |
|----------------------|--------------------------------------|
| Display | LED Indicators, Bluetooth/WLAN + APP |
| RS485 | Yes |
| USB | Yes |
| MBUS | Yes (isolation transformer required) |

| General Data | |
|------------------------------|--|
| Dimensions (W x H x D) | 1,035 x 700 x 365mm (40.7 x 27.6x 14.4 inch) |
| Weight (with mounting plate) | 90 kg (187.4 lb.) |
| Operating Temperature Range | -25°C ~ 60°C (-13°F ~ 140°F) |
| Cooling Method | Smart Air Cooling |
| Max. Operating Altitude | 4,000 m (13,123 ft.) |
| Relative Humidity | 0 ~ 100% |
| DC Connector | Staubli MC4 |
| AC Connector | Waterproof Connector + OT/DT Terminal |
| Protection Degree | IP66 |
| Topology | Transformerless |
| Nighttime Power Consumption | ≤ 3.5 W |

| Standard Compliance (more available upon request) | |
|--|--|
| Safety | N/IEC 62109-1, EN/IEC 62109-2, IEC 62116 |
| Grid Connection Standards | AS/NZS 4777:2015 |

Smart Dongle-WLAN-FE



Smart

WLAN & Fast Ethernet (FE) communication
Support 3rd-party monitoring system ¹



Simple

Plug & Play
Support max. 10 devices



Reliable

IP65
Support auto reconnection

| Technical Specification | SDongleA-05 |
|--|--|
| General Data | |
| Max. Devices Supported | 10 |
| Max. Inverters Supported | 10 |
| Connection interface | USB |
| Ethernet Interface | 10/100M Ethernet |
| Installation | Plug-and-play |
| Indicator | LED Indicator |
| Dimensions (W * H * D) | 146 x 48 x 33 mm (5.1 x 1.9 x 1.3 inch) |
| Weight | 90 g (0.2 lb.) |
| Degree of protection | IP65 |
| Power consumption (typical) | 2.5 W |
| Operation Mode | STA |
| Encryption Algorithm | Encryption Mechanism: WPA/WPA2 Encryption: TKIP/CCMP/AES |
| Wireless Parameter | |
| Supported standards & frequencies | 802.11b/g/n (2.412G—2.484G) |
| Environment | |
| Operating temperature range | -30 °C to +65 °C (-22 °F to 149 °F) |
| Relative humidity range | 5 - 95% RH |
| Storage temperature range | -40°C to +70°C (-40 °F to 158 °F) |
| Max. operating altitude | 4,000 m (13,123 ft.) |
| Standard Compliance (more available upon request) | |
| Certificate | SRRC, CE, RCM |
| Inverter Compatibility | |
| Supported Master Inverter Model | SUN2000-2/3/4/4.6/5/6KTL-L1 SUN2000-5/6KTL-M1 SUN2000-8/10/12/15/17/20KTL-M2 SUN2000-29.9/36/40KTL-M3 |

¹: 3rd-party management system shall match the communication protocol with Huawei Smart Dongle.

Smart Dongle-4G



Smart

2G, 3G, 4G communication ¹
Support 3rd-party monitoring system ²



Simple

Plug & Play
Support max. 10 devices



Reliable

IP65
Support auto reconnection

| Technical Specification | SDongleA-03-AU |
|-------------------------|----------------|
|-------------------------|----------------|

| General Data | |
|-----------------------------|---|
| Max. devices supported | 10 |
| Max. inverters supported | 10 |
| Connection interface | USB |
| Installation | Plug-and-play |
| Indicator | LED Indicator |
| Dimensions (W * H * D) | 130 x 48 x 33 mm (5.1 x 1.9 x 1.3 inch) |
| Weight | 90 g (0.2 lb.) |
| Degree of protection | IP65 |
| Power consumption (typical) | 3.5 W |

| Wireless Parameter | |
|-----------------------------------|--|
| Sim card type | mini-sim (15 mm*25 mm) |
| Supported standards & frequencies | 4G: FDD-LTE / TDD-LTE 3G: WCDMA / HSDPA / HSUPA / HSPA+ 2G: GSM / GPRS / EDGE ³ |

| Environment | |
|-----------------------------|-------------------------------------|
| Operating temperature range | -30 °C to +65 °C (-22 °F to 149 °F) |
| Relative humidity range | 5 - 95% RH |
| Storage temperature range | -40 °C to +70 °C (-40 °F to 158 °F) |
| Max. operating altitude | 4,000 m (13,123 ft.) |

| Standard Compliance (more available upon request) | |
|---|-----|
| Certificate | RCM |

| Inverter Compatibility | |
|------------------------|--|
| Inverter model | SUN2000-2/3/4/4.6/5/6KTL-L1 SUN2000-5/6KTL-M1 SUN2000-8/10/12/15/17/20KTL-M2 SUN2000-29.9/36/40KTL-M3 SUN2000-50KTL-M0 |

1: To ensure stable data transmission, Huawei suggests 4G dongle to be installed in areas with stable mobile signal (2G signal ≥ 4 bars, 3G/4G signal ≥ 3 bars).

2: 3rd-party management system shall match the communication protocol with Huawei Smart Dongle.

3: For recommended carriers list and details on supported frequencies, please contact local distributors.

SmartLogger3000A



Smart

Smart zero export control design



Simple

Easy to install on site



Reliable

Safety by lightning protection module

| Technical Specification | SmartLogger3000A01AU |
|------------------------------------|--|
| Device Management | |
| Max. Number of Manageable Devices | 80 |
| Communication Interface | |
| WAN | WAN x 1, 10 / 100 / 1000 Mbps |
| LAN | LAN x 1, 10 / 100 / 1000 Mbps |
| RS485 | COM x 3, 1200 / 2400 / 4800 / 9600 / 19200 / 115200 bps, 1000 m |
| 2G / 3G / 4G ¹ | LTE(FDD): B1 / B2 / B3 / B4 / B5 / B7 / B8 / B28 LTE(TDD): B40 WCDMA: B1 / B2 / B5 / B8 GSM: B2 / B3 / B5 / B8 ² |
| Digital / Analog Input / Output | DI x 4, DO x 2, AI x 4 |
| Active DO | 12V, 100mA (connection with relay, sensor) |
| Communication Protocol | |
| Ethernet | Modbus-TCP, IEC 60870-5-104 |
| RS485 | Modbus-RTU, IEC 60870-5-103 (standard), DL / T645 |
| Interaction | |
| LED | LED Indicator x 3 – RUN, ALM, 4G |
| WEB | Embedded Web |
| USB | USB 2.0 x 1 |
| APP | Communication by WLAN for Commissioning |
| Environment | |
| Operating Temperature Range | -40°C ~ 60°C (-40°F ~ 140°F) |
| Storage Temperature | -40°C ~ 70°C (-40°F ~ 158°F) |
| Relative Humidity (Non-condensing) | 5% ~ 95% |
| Max. Operating Altitude | 4,000 m (13,123 ft.) |
| Electrical | |
| AC Power Supply | 100 V ~ 240 V, 50 Hz / 60 Hz |
| DC Power Supply | 12V / 24 V |
| Power Consumption | Typical 8 W, Max. 15 W |
| Mechanical | |
| Dimensions (W x H x D) | 225 x 160 x 44 mm (8.9 x 6.3 x 1.7 inch, without mounting ears and antenna) |
| Weight | 2 kg (4.4 lb.) |
| Protection Degree | IP20 |
| Installation Options | Wall Mounting, DIN Rail Mounting, Tabletop Mounting |

1 - When putting inside metal box, extended antenna will be needed.
2 - For recommended carriers list and details on supported frequencies, please contact local distributors.

FusionSolar Smart PV Management System



Simple & Swift

- Simple commissioning by APP
- Auto-detection of system equipment
- Registering your plant by scanning any device



Convenient & Reliable

- Energy flow illustration
- Real-time data at anytime from anywhere
- Performance data back-up



Improved O&M Experience

- Physical & logical module layout
- Module-level performance management*
- Smart I-V Diagnosis

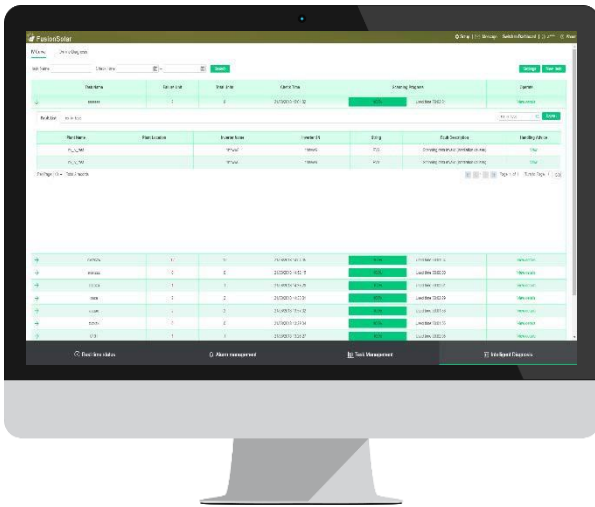
*Full optimizer solution with Smart PV Safety Box required

| Feature List | | WEB | APP |
|------------------|-----------------------------------|-----|-----|
| Basic Feature | Swift Installation & Registration | ● | ● |
| | Data Collection | ● | |
| | Dashboard | ● | ● |
| | Energy Flow | ● | ● |
| | Energy Generation & Consumption | ● | ● |
| | Device Management | ● | ● |
| | Report Management | ● | ● |
| | Alarm Management | ● | ● |
| Advanced Feature | System Configuration | ● | |
| | Intelligent O&M | ○ | |
| | Mobile O&M | ○ | ○ |
| | Proactive Diagnosis | ○ | ○ |
| | Smart I-V Curve Diagnosis | ○ | ○ |

● Basic ○ Optional

Smart I-V Curve Diagnosis

Smart I-V Curve Diagnosis is able to carry out online I-V curve analysis on entire strings with advanced diagnosis algorithm. The scanning would help to find out and identify the strings with low performance or faults, which would help to achieve proactive maintenance, higher O&M efficiency and lower operation cost.



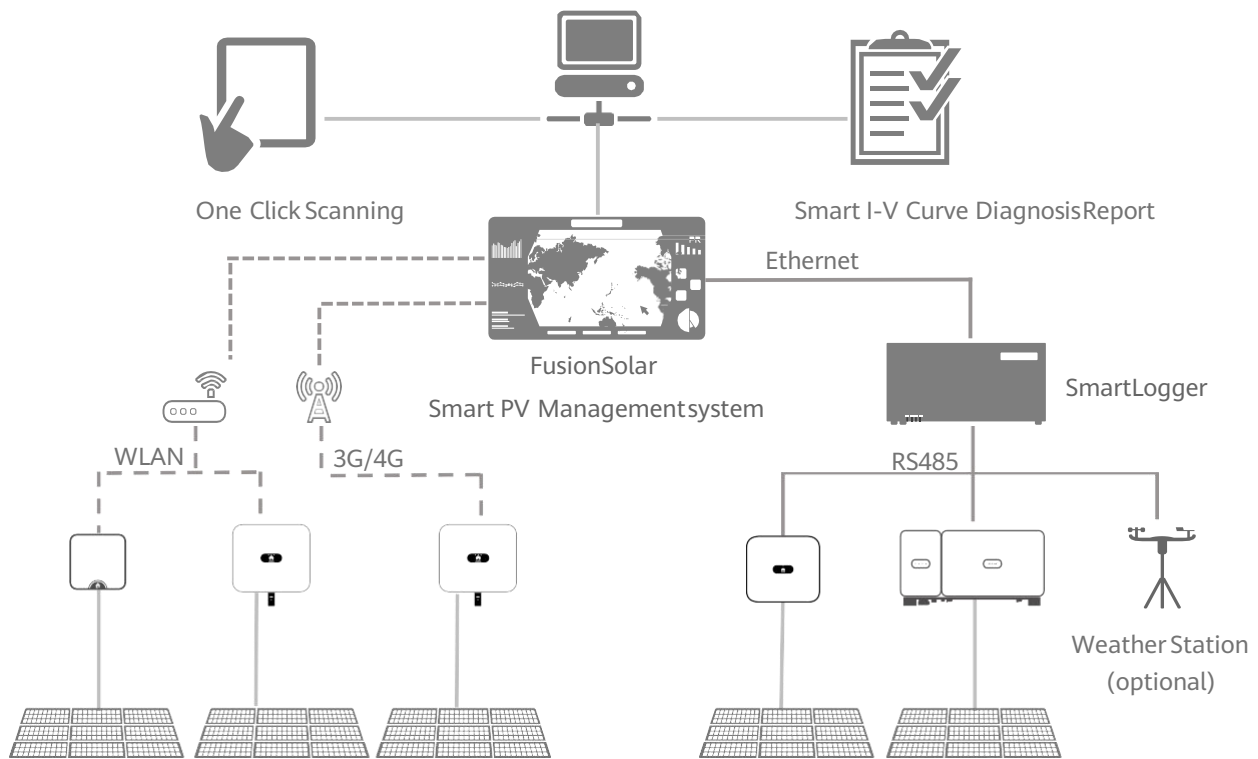
Smart


- Support plant-level, array-level and inverter-level analysis and diagnosis
- Automatically identify different failure types and provide recovery suggestion

Efficient

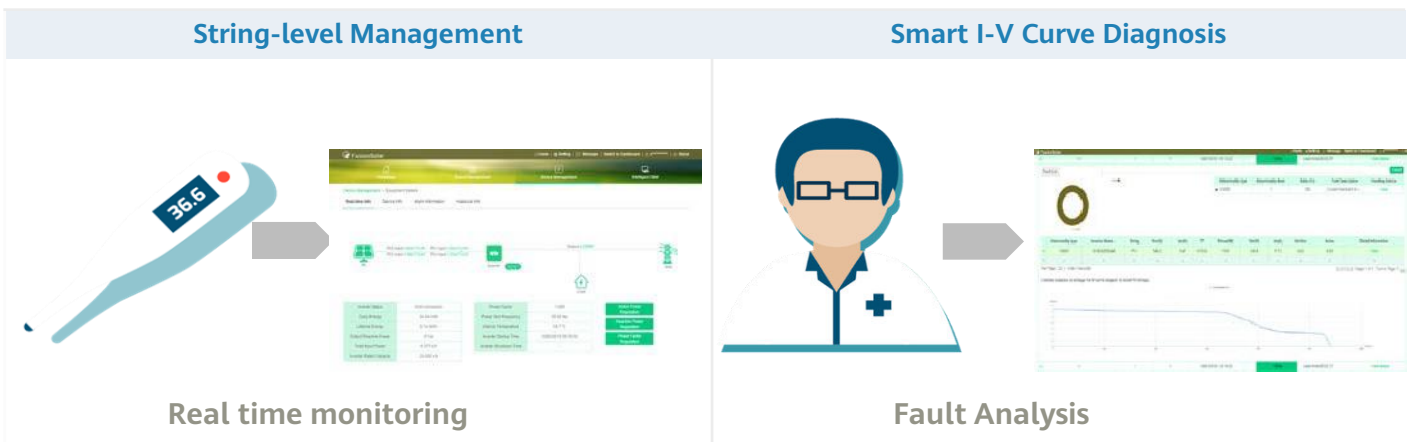
- One-click scanning without onsite experts or equipment
- Online I-V curve scanning on entire strings of 5 MW plant within 5min
- Automatic report generation of 5 MW plant within 15min

Network

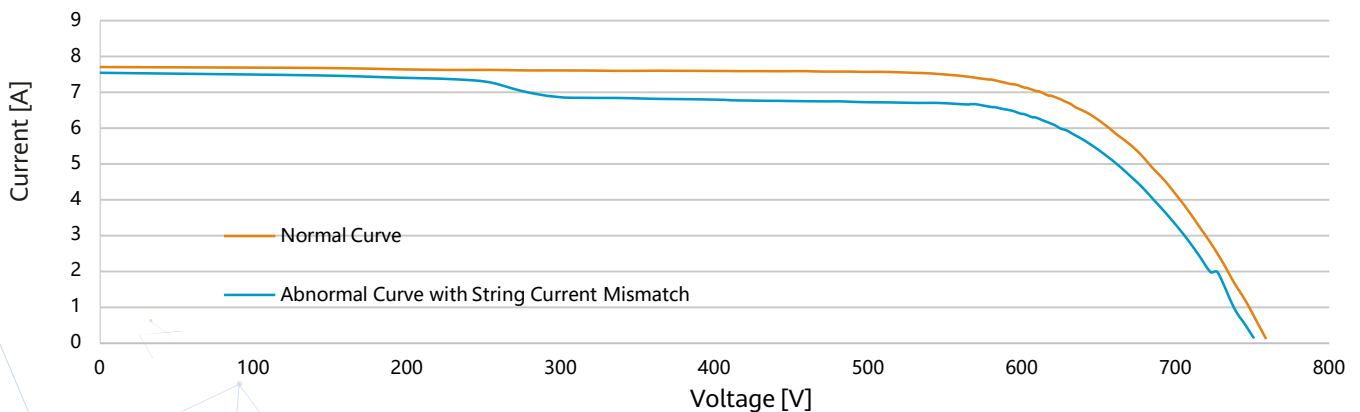
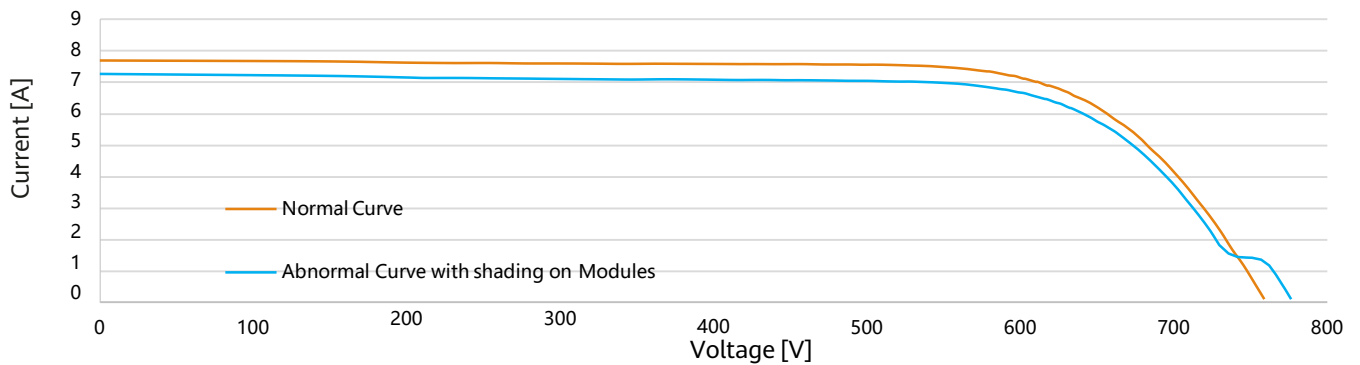


| Technical Specifications | Smart I-V Curve Diagnosis | |
|-------------------------------|--|-----|
| Smart PV Inverter* | SUN2000L-2/3/4/4.6/5KTL, SUN2000-5/6KTL-M0, SUN2000-8/10/12/15/17/20KTL-M0, SUN2000-29.9/36KTL, SUN2000-50KTL-M0 | |
| Communication | SmartLogger1000, SmartLogger2000, SmartLogger1000A, Smart Dongle | |
| Management System | FusionSolar Smart PV Management System, NetEco1000s | |
| Scanning Time | < 1s (1 string) | |
| Sampling Points per I-V Curve | 128 | |
| Certification |  TÜVRheinland® | TUV |

* I-V curve diagnosis is not supported when inverter is connected with power optimizer.



String I-V Curve Comparison





10kW

Residential Energy System in NSW, Australia

System Configuration

- 32 × 310Wp modules
- 2 × SUN2000L-5KTL
- WLAN Communication

COD
Jan, 2019

Retailer
JT Solar



5kW

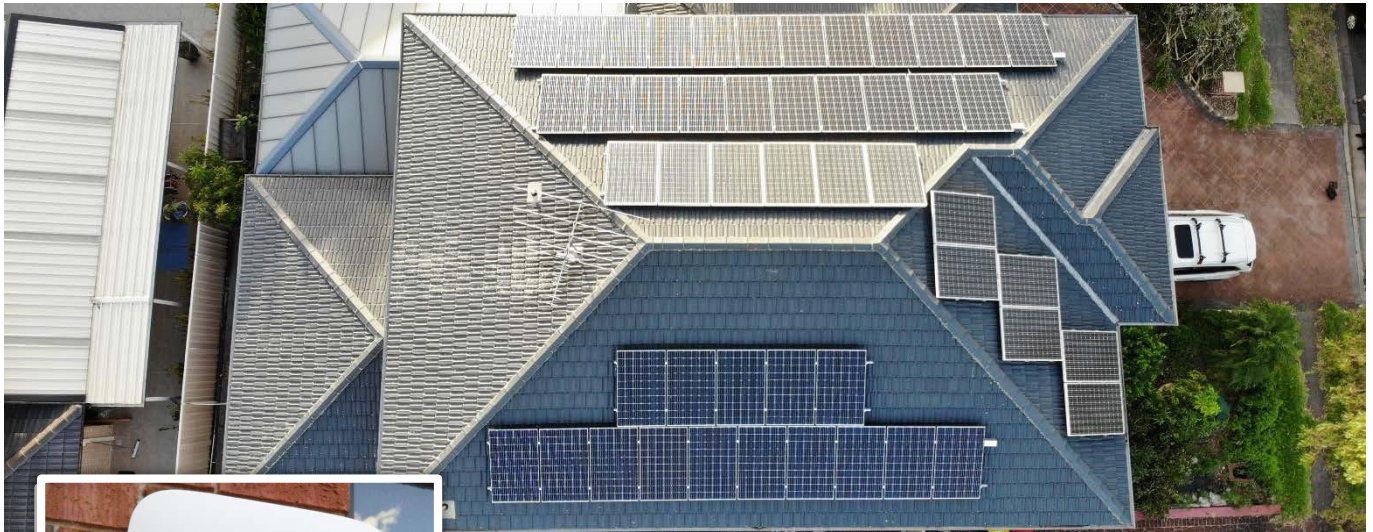
Residential PV System in NSW, Australia

System Configuration

- 18 × 310Wp modules
- 1 × SUN2000L-5KTL
- WLAN Communication

COD
Jan, 2019

Retailer
JT Solar



15kW

Residential PV System in NSW, Australia

System Configuration

- 37 × 310Wp Longi modules, 12 x existed old modules
- 3 × SUN2000L-5KTL
- WLAN communication

COD
Feb, 2019

Retailer
JT Solar



33kW

Residential PV System in Hanadacho Chokushi, Japan

System Configuration

- 120 × 275Wp modules
- 8 × SUN2000L-4.125KTL-JP
- SmartACBox12in1

COD
April, 2018

Distributor
DMM.com



4kW

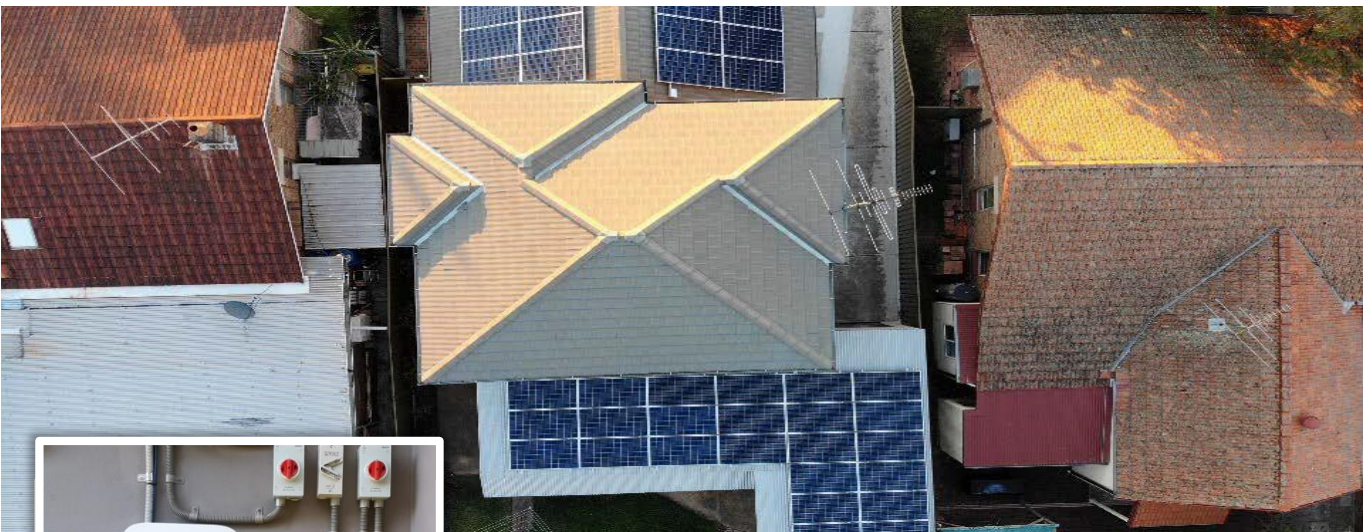
Residential PV System in Waregem, Belgium

System Configuration

- 18 × 295Wp modules
- 6 × 375W optimizers
- SUN2000L-4KTL, WLAN
- Smart PV safety box

COD
May, 2018

Distributor
Wattkraft



8kW

Residential Energy System in Sydney, Australia

System Configuration

- 36 × 270Wp modules
- 24 × 375W optimizers
- SUN2000L-3KTL & -5KTL
- LG Chem RESU10H Type R

COD
Dec, 2017

Distributor
ASC



1.12MW

Distributed PV System in Dandenong, Australia

System Configuration

- 4000 x Jinko 305Wp modules
- 34 x SUN2000-33KTL
- SmartLogger1000

COD
2019



550kWp

Commercial PV Project in NSW, Australia

System Configuration

- 1679 x 320Wp Jinko modules
- 17 x SUN2000-33KTL

COD
May, 2018

Distributor
Megawatt Power



1MWp

Distributed PV System in Kuala Lumpur, Malaysia

System Configuration

- SUN2000-36KTL

COD

Mar, 2016



2.8MWp

Distributed PV System in Singapore Changi Airport

System Configuration

- SUN2000-36KTL

COD

Dec, 2016



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