

Smart Energy Center



reddot award 2016
winner



Higher Revenue

Max. efficiency 98.6%



Simple & Easy

Optimized AC connector



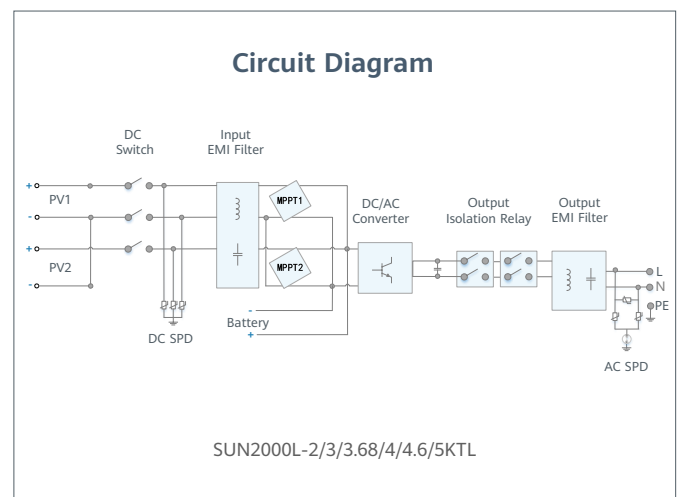
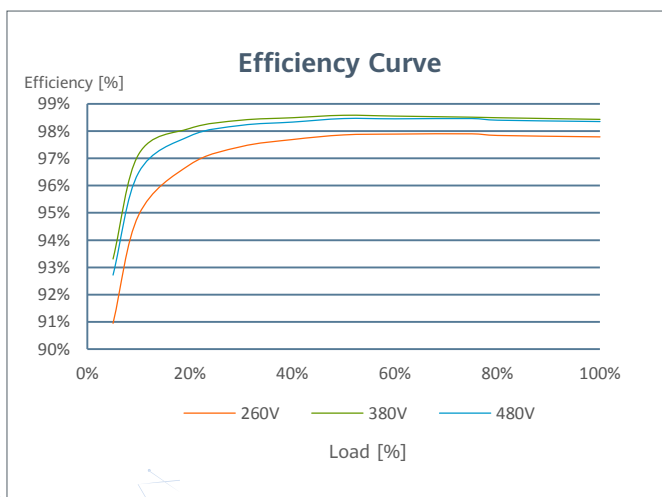
Battery Ready

Plug & Play battery interface



Safe & Reliable

DC & AC surge protection



SUN2000L-2/3/3.68/4/4.6/5KTL Technical Specification

| Technical Specification | SUN2000L-2KTL | SUN2000L-3KTL | SUN2000L-3.68KTL | SUN2000L-4KTL | SUN2000L-4.6KTL | SUN2000L-5KTL |
|-------------------------|---------------|---------------|------------------|---------------|-----------------|---------------|
|-------------------------|---------------|---------------|------------------|---------------|-----------------|---------------|

Efficiency

| | | | | | | |
|------------------------------|--------|--------|--------|--------|--------|--------|
| Max. efficiency | 98.4 % | 98.5 % | 98.5 % | 98.6 % | 98.6 % | 98.6 % |
| European weighted efficiency | 97.0 % | 97.6 % | 97.8 % | 97.9 % | 98.0 % | 98.0 % |

Input

| | | | | | | |
|--------------------------------------|--|---------------|---------------|---------------|---------------|---------------|
| Recommended max. PV power | 3,000 Wp | 4,500 Wp | 5,520 Wp | 6,000 Wp | 6,900 Wp | 7,500 Wp |
| Max. input voltage | 600 V / 495 V ¹ | | | | | |
| Operating voltage range ¹ | 90 V ~ 600 V / 90 V ~ 495 V ¹ | | | | | |
| Start-up voltage | 120 V | | | | | |
| Full power MPPT voltage range | 120 V ~ 480 V | 160 V ~ 480 V | 190 V ~ 480 V | 210 V ~ 480 V | 260 V ~ 480 V | 260 V ~ 480 V |
| Rated input voltage | 380 V | | | | | |
| Max. input current per MPPT | 11 A | | | | | |
| Max. short-circuit current | 15 A | | | | | |
| Number of MPP trackers | 2 | | | | | |
| Max. number of inputs | 2 | | | | | |

Output

| | Single phase | | | | | |
|--------------------------------|-----------------------------|----------|----------|----------|-----------------------|-----------------------|
| Rated output power | 2,000 W | 3,000 W | 3,680 W | 4,000 W | 4,600 W | 5,000 W ² |
| Max. apparent power | 2,200 VA | 3,300 VA | 3,680 VA | 4,400 VA | 5,000 VA ³ | 5,500 VA ⁴ |
| Rated output voltage | 220 V / 230 V / 240 V | | | | | |
| Rated AC grid frequency | 50 Hz / 60 Hz | | | | | |
| Max. output current | 10 A | 15 A | 16 A | 20 A | 23 A ⁵ | 25 A ⁵ |
| Adjustable power factor | 0.8 leading ... 0.8 lagging | | | | | |
| Max. total harmonic distortion | ≤ 3 % | | | | | |

Protection

| | |
|----------------------------------|-----|
| Anti-Islanding protection | Yes |
| DC reverse polarity protection | Yes |
| Insulation monitoring | Yes |
| DC surge protection ⁶ | Yes |
| AC surge protection ⁶ | Yes |
| Residual current monitoring | Yes |
| AC overcurrent protection | Yes |
| AC short-circuit protection | Yes |
| AC overvoltage protection | Yes |
| Over-heat protection | Yes |

General Data

| | |
|------------------------------------|---|
| Operating temperature range | -30 ~ +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 |
| Communication | RS485, WLAN |
| Weight (incl. mounting bracket) | 10.6 kg (23.4 lb) |
| Dimension (incl. mounting bracket) | 375 x 375 x 161.5 mm (14.8 x 14.8 x 6.4 inch) |
| Degree of protection | IP65 |
| Nighttime Power Consumption | < 2 W |

Battery Compatibility

| | |
|---------------|---------------------------|
| Battery | LG Chem RESU 7H_R / 10H_R |
| Voltage range | 350 ~ 450 Vdc |
| Max. current | 10 A |
| Communication | RS485 |

Optimizer Compatibility

| | |
|------------------------------|---|
| DC MBUS compatible optimizer | SUN2000P-375W via Smart PV Safety Box SmartPSB2000L |
|------------------------------|---|

Standard Compliance (more available upon request)

| | |
|---------------------------|--|
| Safety | EN/IEC 62109-1, EN/IEC 62109-2 |
| Grid connection standards | G83/2, G59/3, EN 50438, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, NRS 097-2-1, DEWA 2016 |

*1. Only applicable for PV string. The maximum input voltage and operating voltage upper limit will be reduced to 495 V when inverter connects and works with LG battery.

*2. AS4777:4990W. *3. VDE-AR-N 4105:4600VA / AS4777:4990VA. *4. AS4777:4990VA. *5. AS4777:21.7A.

*6. Compatible TYPE II protection class according to EN/IEC 61643-11



Actieve beveiliging

Door AI mogelijk gemaakte actieve vlamboogbeveiliging



Hoger rendement

Tot 30% meer energie met optimizers ¹



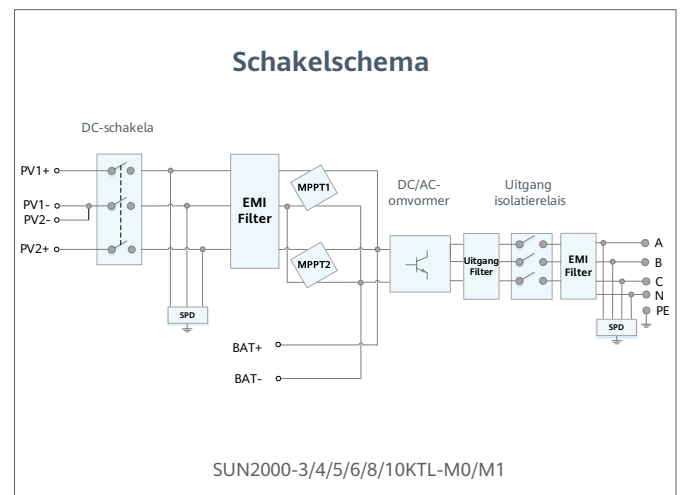
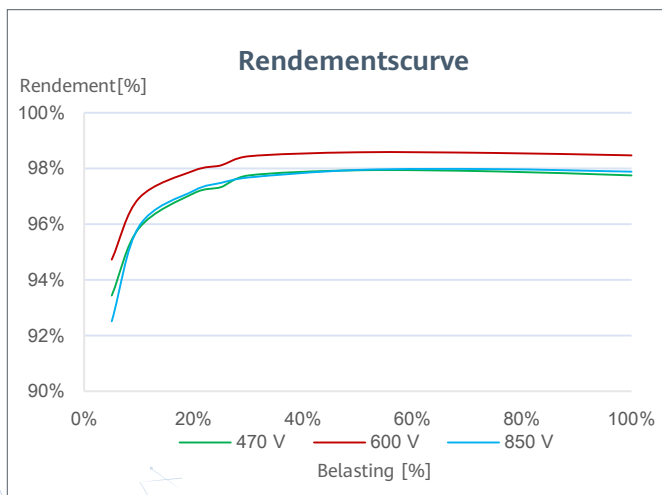
Batterij gereed

Plug & Play batterij-interface ²



Flexibele communicatie

WLAN, Fast Ethernet, 4G
Communicatie ondersteund



¹ Alleen van toepassing op SUN2000-3 / 4/5/6/8 / 10KTL-M1 smart energy center.
² SUN2000-3 / 4/5/6/8 / 10KTL-M0 zal compatibel zijn met HUAWEI smart string ESS in Q1, 2021

SUN2000-3/4/5/6/8/10KTL-M1
Technische Specificaties

| Technische Specificaties | SUN2000 -3KTL-M1 | SUN2000 -4KTL-M1 | SUN2000 -5KTL-M1 | SUN2000 -6KTL-M1 | SUN2000 -8KTL-M1 | SUN2000 -10KTL-M1 |
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|

Rendement

| | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Max.rendement | 98.2% | 98.3% | 98.4% | 98.6% | 98.6% | 98.6% |
| Europees gewogen rendement | 96.7% | 97.1% | 97.5% | 97.7% | 98.0% | 98.1% |

Ingang (PV)

| | | | | | | |
|-------------------------------|---------------|----------|----------|----------|-----------|-----------|
| Aanbevolen max. PV-vermogen 1 | 4,500 Wp | 6,000 Wp | 7,500 Wp | 9,000 Wp | 12,000 Wp | 15,000 Wp |
| Max. Ingangsspanning 2 | 1,100 V | | | | | |
| Werkingsspanningbereik 3 | 140 V ~ 980 V | | | | | |
| Opstartspanning | 200 V | | | | | |
| Nominale ingangsspanning | 600 V | | | | | |
| Max. ingangsstroom per MPPT | 11 A | | | | | |
| Max. kortsluitstroom | 15 A | | | | | |
| Aantal MPP-trackers | 2 | | | | | |
| Aantal ingangen per MPPT | 1 | | | | | |

Ingang (DC-batterij)

| | | | | | | |
|-------------------------|--------------------------------------|---------|---------|---------|---------|----------|
| Compatibele batterij | HUAWEI Smart String ESS 5kWh – 30kWh | | | | | |
| Werkingsspanningbereik | 600 V ~ 980 V | | | | | |
| Max. kortsluitstroom | 16 A | | | | | |
| Max laadvermogen | 10,000 W | | | | | |
| Max. Ontladingsvermogen | 3,300 W | 4,400 W | 5,500 W | 6,600 W | 8,800 W | 10,000 W |

Uitgang (op net)

| | | | | | | |
|------------------------------------|---|----------|----------|----------|----------|-------------|
| Netverbinding | Drie fase | | | | | |
| Nominaal uitgangsvermogen | 3,000 W | 4,000 W | 5,000 W | 6,000 W | 8,000 W | 10,000 W |
| Max. uitgangsvermogen | 3,300 VA | 4,400 VA | 5,500 VA | 6,600 VA | 8,800 VA | 11,000 VA 4 |
| Nominale netspanning | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE | | | | | |
| Nominale netfrequentie | 50 Hz / 60 Hz | | | | | |
| Max. uitgangsstroom | 5.1 A | 6.8 A | 8.5 A | 10.1 A | 13.5 A | 16.9 A |
| Aanpasbare arbeidsfactor | 0.8 inductief ... 0.8 capacitief | | | | | |
| Max. totale harmonische vervorming | ≤ 3 % | | | | | |

Uitgang (Back-upstroom via back-upbox-B1)

| | | | | | | |
|---------------------------|----------------------------------|--|--|--|--|--|
| Max. uitgangsvermogen | 3,300 VA | | | | | |
| Nominale uitgangsspanning | 220 V / 230 V | | | | | |
| Max. uitgangsstroom | 15 A | | | | | |
| Aanpasbare arbeidsfactor | 0.8 inductief ... 0.8 capacitief | | | | | |

Veiligheid

| | | | | | | |
|------------------------------------|---|--|--|--|--|--|
| Geïntegreerde DC-schakelaar | Ja | | | | | |
| Anti-eilandbeveiliging | Ja | | | | | |
| DC ompoolbeveiliging | Ja | | | | | |
| Isolatiebewaking | Ja | | | | | |
| DC-overspanningsbeveiliging | Ja, compatibel met beschermingsklasse TYPE II volgens EN / IEC 61643-11 | | | | | |
| AC-overspanningsbeveiliging | Ja, compatibel met beschermingsklasse TYPE II volgens EN / IEC 61643-11 | | | | | |
| Aardlekbeveiliging (RCD) | Ja | | | | | |
| AC beveiliging tegen overstroom | Ja | | | | | |
| AC beveiliging tegen kortsluiting | Ja | | | | | |
| AC beveiliging tegen overspanning | Ja | | | | | |
| Vlamhoogbeveiliging | Ja | | | | | |
| Toonfrequent-ontvanger | Ja | | | | | |
| Geïntegreerd PID-herstel 5 | Ja | | | | | |
| Batterij omgekeerd opladen van net | Ja | | | | | |

Algemene Gegevens

| | | | | | | |
|---|---|--|--|--|--|--|
| Temperatuurbereik (in bedrijf) | -25 ~ + 60 °C | | | | | |
| Relatieve luchtvochtigheid (in bedrijf) | 0 %RH ~ 100 %RH | | | | | |
| Bedrijfshoogte | 0 - 4,000 m (Afleiding boven 3,000 m) | | | | | |
| Koelmethode | Natuurlijke convectie | | | | | |
| Display | LED-indicatoren; Geïntegreerde WLAN + FusionSolar-app | | | | | |
| Communicatie | RS485; WLAN / Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (optioneel) | | | | | |
| Gewicht (incl. montagebeugel) | 17 kg | | | | | |
| Afmetingen (incl. montagebeugel) | 525 x 470 x 166 mm | | | | | |
| Beschermingsgraad | IP65 | | | | | |
| Stand-by verbruik | < 5.5 W 6 | | | | | |

Optimizer

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

Normnaleving (meer beschikbaar op aanvraag)

| | | | | | | |
|--------------------------|--|--|--|--|--|--|
| Veiligheid | EN/IEC 62109-1, EN/IEC 62109-2 | | | | | |
| Normen netwerkverbinding | G98, G99, EN 50438, EN 50549-1, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, IEC62116, DEWA | | | | | |

¹ Het maximale PV-ingangsvermogen van de omvormer is 20.000 Wp wanneer lange strings zijn ontworpen en volledig zijn aangesloten met SUN2000-450W-P power optimizers.

² De maximale ingangsspanning is de bovengrens van de DC-spanning. Elke hogere ingang DC spanning zou waarschijnlijk beschadigen omvormer.

³ Elke DC-ingangsspanning buiten het bedrijfsspanningsbereik kan ertoe leiden dat de omvormer niet goed werkt.

⁴ C10 / 11: 10,000 VA

⁵ SUN2000-3 ~ 10KTL-M1 verhoogt het potentieel tussen PV- en aarde tot boven nul door middel van een geïntegreerde PID-herstelfunctie om de degradatie van de module van PID te herstellen. Ondersteunde moduletypen zijn onder meer: P-type (mono, poly).

⁶ <10 W wanneer de PID-herstelfunctie is geactiveerd.