



SMART ENERGY CONTROLLER

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



Active Safety
Active arcing protection



Higher Yields
Up to 30% more energy
with optimizer



Battery Ready
Plug & play, whole-home
power backup

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

Technical Specification

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Efficiency							
Max. efficiency	98.2%	98.3%	98.4%	98.4%	98.4%	98.4%	98.4%
European weighted efficiency	96.7%	97.3%	97.3%	97.5%	97.7%	97.8%	97.8%
Input (PV)							
Recommended max. PV power ¹	3,000 Wp	4,500 Wp	5,520 Wp	6,000 Wp	6,900 Wp	7,500 Wp	9,000 Wp
Max. input voltage				600 V			
Startup voltage				100 V			
MPPT operating voltage range				90–560 V			
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. inputs per MPP tracker				1			
Input (DC Battery)							
Compatible battery				LUNA2000-5/10/15-S0, LUNA2000-5/7/10/12/14/15/17/19/21-S1			
Operating voltage range				350–560 V DC			
Max. operating current				15 A			
Max. charge power				5,000 W			
Max. discharge power	2,200 W	3,300 W	3,680 W	4,400 W	4,600 W	5,000 W	5,000 W
Output (On Grid)							
Grid connection				Single-phase			
Rated output power	2,000 W	3,000 W	3,680 W	4,000 W	4,600 W	5,000 W	6,000 W
Max. apparent power	2,200 VA	3,300 W	3,680 W	4,400 VA	5,000 VA	5,500 W	6,000 VA
Rated output voltage				220 V AC/230 V AC/240 V AC			
Rated AC grid frequency				50 Hz/60 Hz			
Max. output current	10 A	15 A	16 A	20 A	23 A	25 A	27.3 A
Adjustable power factor				0.8 leading ... 0.8 lagging			
Max. total harmonic distortion				≤ 3%			
Power output				Yes (via SmartGuard-63A-S0)			
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 charging from grid				Yes			
General Specification							
Operating temperature range				-25°C to +60°C (Derated above 45°C @ Rated output power)			
Relative operating humidity				0%-100% RH			
Operating altitude				0-4,000 m (Derated 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); SA4H-A02			
Weight (incl. mounting brackets)				12.0 kg (26.5 lb)			
Dimensions (incl. mounting brackets)				365 mm x 375 mm x 156 mm			
IP rating				IP65			
Nighttime power				< 2.5 W			
Optimizer Compatibility							
DC MBUS compatible optimizer				SUN2000-450W-P2, SUN2000-600W-P			
Standards Compliance (More Available Upon Request)							
Safety				EN/IEC 62109-1, EN/IEC 62109-2			
Grid connection standards				G98, G99, EN 50549-1, CEI 0-21, VDE-AR-N-4105, AS 4777.2, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, IEC62116			

*1 The inverter max input PV power is 10,000 Wp when long strings are designed and fully connected with optimizers.

Disclaimer: The preceding values are measured by an internal laboratory of Huawei in a specific environment. The actual values may vary with products, software versions, usage conditions, and environmental factors.