Huawei SUN2000-3/4/5/6/8/10KTL-M1

The Huawei SUN2000-M1 is a three-phase residential smart energy controller delivering 3-10kW with up to 98.6% efficiency. Features dual MPPT, 1100V input, AFCI protection, and LUNA2000 battery compatibility for energy storage.

Models Covered: SUN2000-3KTL-M1, SUN2000-4KTL-M1, SUN2000-5KTL-M1, SUN2000-6KTL-M1, SUN2000-8KTL-M1, SUN2000-10KTL-M1

Manufacturer: Huawei Digital Power Technologies Co., Ltd.

Application: Ideal for United Arab Emirates's climate with wide operating temperature range and dust-resistant design.

INVERTERS | M1 THREE-PHASE SMART ENERGY CONTROLLER | 98.6% MAX EFFICIENCY | DUAL MPPT (1100V INPUT) | AFCI ARC PROTECTION (0.5S RESPONSE) | LUNA2000 BATTERY COMPATIBLE | IP65 NATURAL CONVECTION

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Technical Specifications

- Technical Specifications
- Key Features
- Applications & Use Cases
- Frequently Asked Questions

Technical Specifications

Parameter	SUN2000-3KTL-M1	SUN2000-4KTL-M1	SUN2000-5KTL-M1	SUN2000-6KTL-M1	SUN2000-8KTL-M1	SUN2000-10KTL-M1
DC Input						
Recommended Max PV Power [Wp]	4500	6000	7500	9000	12000	15000
Max DC Voltage [V]	1100					

Operating Voltage Range [V]	140-980					
Startup Voltage [V]	200					
Max Input Current per MPPT [A]	13.5					
No. of MPPTs / Strings per MPPT	2 / 1					
AC Output						
Rated AC Power [W]	3000	4000	5000	6000	8000	10000
Max Apparent Power [VA]	3300	4400	5500	6600	8800	11000
Grid Connection	Three-Phase					
Nominal AC Voltage [V]	220/380, 230/400					
Max Efficiency [%]	98.2	98.3	98.4	98.6	98.6	98.6
European Efficiency [%]	96.7	97.1	97.5	97.7	98.0	98.1
Battery (DC)						
Compatible Batteries	LUNA2000-5/10/15-S0, LUNA2000-7/14/21-S1					
Operating Voltage [V]	600-980					
Max Discharge Power [kW]	3.3	4.4	5.5	6.6	8.8	10.0
General Data						
Dimensions (W×H×D) [mm]	525 × 470 × 146.5					
Weight [kg]	17					

Protection Degree	IP65
Operating Temperature	-25 °C ~ +60 °C
Cooling	Natural Convection
Nighttime Consumption [W]	< 5.5

Note: Specifications are based on the official Huawei datasheet. Values may be subject to change; always verify against the latest manufacturer documentation.

Key Features

- 98.6% Max Efficiency
- Dual MPPT (1100V Input)
- AFCI Arc Protection (0.5s Response)
- LUNA2000 Battery Compatible
- IP65 Natural Convection
- 25+ Years Design Life

Applications & Use Cases

Typical Applications

- Residential solar systems
- Commercial installations
- Industrial solar plants
- Utility-scale projects
- Smart grid integration

Regional Installation Notes (United Arab Emirates)

Climate Suitability: Ideal for United Arab Emirates's climate with wide operating temperature range and dust-resistant design.

- Sand and dust resistant design
- Wide operating temperature range
- High efficiency in hot conditions
- Long-term warranty

Frequently Asked Questions

▼ What is the difference between M1 and L1?

The M1 is a three-phase inverter (380/400V) while the L1 is single-phase (220/230V). The M1 supports higher input voltage (1100V vs 600V) and higher power ratings up to 10kW.

▶ Can the M1 provide backup power?

▶ What is the warranty coverage for the Huawei SUN2000-3/4/5/6/8/10KTL-M1?

▶ What certifications does the Huawei SUN2000-3/4/5/6/8/10KTL-M1 have?

▶ What model variants are available in the SUN2000-3/4/5/6/8/10KTL-M1 series?

▶ What are the installation requirements for the Huawei SUN2000-3/4/5/6/8/10KTL-M1?

▶ How does the Huawei SUN2000-3/4/5/6/8/10KTL-M1 perform in hot climates?

▶ What are the dimensions and weight of the Huawei SUN2000-3/4/5/6/8/10KTL-M1?

Official Source & Documentation

This technical datasheet is derived from official manufacturer documentation provided by **Huawei Digital Power Technologies Co., Ltd.**.

- **Manufacturer Website:** https://solar.huawei.com
- **Technical Support:** solar@huawei.com
- **Sales Inquiries:** sales@huawei-solar.org
- **Data Source:** Official Datasheet - Huawei Digital Power Technologies Co., Ltd.

Disclaimer: *All specifications are based on the official datasheet. Specifications are subject to change without notice. Please verify with the manufacturer for the most current information.*

Last Updated: March 2026 | **Document Version:** 1.0 | **Published by:** Huawei UAE (huawei-solar.org)