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DATASHEET · EAP-DS-20261107-SDPOI12K-R01

SDPO-I-12K

Split-phase hybrid inverter · 120/240 Vac · 51.2 V battery · 12 kW

A split-phase hybrid inverter for 120/240 Vac homes and light commercial sites. The 12 kW platform combines dual MPPT charging, AC and generator charging, UPS bypass and battery inversion, with 120/240 V output, parallel operation and a wall-mount cabinet of 710 × 485 × 145 mm.

OFF-GRID HOMES | BACKUP POWER | CABINS AND RV | SMALL COMMERCIAL | AGRICULTURE | MICROGRID



12 kW	120/240 Vac	2 MPPT	37.5 kg
RATED AC POWER	SPLIT-PHASE OUTPUT	PV TRACKERS	NET WEIGHT

KEY FEATURES

01
12 kW split-phase
Rated output 12,000 VA split-phase / 7,200 W single-phase, peak 18,000 VA, power factor 1 and ±5 % output tolerance.

02
Dual MPPT, 500 V
12,000 W + 12,000 W PV input, 90–450 Vdc MPPT window, 90–485 Vdc operating range and 500 Vdc maximum.

03
51.2 V battery
Lead-acid or lithium bank, 40–58.6 Vdc, charge current 160 A and PV charge current 250 A.

04
Hybrid charging
AC, generator and PV charging with a combined maximum of 0–250 A; 10 ms typical bypass transfer.

05
Parallel-ready
Permitted parallel units: 1–6. IP models are single-unit only.

06
Forced-air cooling
Variable-speed fan, ≤ 60 dB, −10 to +55 °C with derating above 45 °C.

SCOPE OF SUPPLY

- SDPO-I-12K
- Dual MPPT PV charger
- 51.2 V lithium / lead-acid interface
- WiFi / RS485 monitoring
- Wall-mount bracket and manual

APPLICATION NOTE
Balance L1 and L2 loads and keep the PV string voltage under 480 V for full MPPT range. For parallel systems use matched firmware and equal battery cable lengths.

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TECHNICAL SPECIFICATIONS

AC INPUT AND OUTPUT

Rated output power	**12,000 VA split-phase / 7,200 W single-phase**
Peak power	**18,000 VA**
Rated input voltage	**120 (L1/N, L2/N) / 240 Vac (L1/L2)**
Input phase voltage range	**85–140 Vac ±2 %**
Frequency	**50/60 Hz auto detection; 47–55 / 57–65 Hz**
Bypass overload current	**200 A (L1/L2), 2-pole**
Conversion time	**10 ms typical**
Power factor	**1**
Output voltage error	**±5 %**
Overload protection	**105–110 %: 5 min; 110–125 %: 10 s; >125 %: 5 s**
Loaded motor capability	**6 HP**
Efficiency / max efficiency	**> 95 % / > 91 %**

PV INPUT

Number of MPPT	**2**
Maximum PV input power	**12,000 W + 12,000 W**
Maximum PV input current	**27 A + 27 A / 32 A + 32 A**
MPPT voltage range	**90–450 Vdc**
PV operating voltage range	**90–485 Vdc**
Maximum PV open-circuit voltage	**500 Vdc**
PV charge current	**250 A**
Charging short-circuit protection	**Circuit breaker**

BATTERY

Battery type	**Lead-acid or lithium**
Rated battery voltage	**51.2 V (minimum start 44 V)**
Battery voltage range	**40.0–58.6 Vdc**
Maximum charge current	**160 A**
Charge voltage range	**40–58.6 Vdc**
Combined charger current	**0–250 A**
Circuit breaker	**2-pole, 63 A (L1/L2)**

GENERAL AND COMPLIANCE

Ingress protection	**IP20**
Operating temperature	**−10 to +55 °C (derating above 45 °C)**
Storage temperature	**−25 to +60 °C**
Humidity	**5–95 % (conformal coating)**
Noise / cooling	**≤ 60 dB / forced air, variable speed**
Dimensions (L × W × D)	**710 × 485 × 145 mm**
Net weight	**37.5 kg**
Parallel quantity	**1–6**
Interface	**USB / RS485 (WiFi / GPRS) / dry contact**
Warranty	**2 years**
Certification / EMC	**UI1741 / FCC Part 15 Class B**
Packing	**Single export carton**

NOTES

- Certifications are reproduced from the supplied sheet (UI1741 / FCC Part 15 Class B); the EU CE set is not used for this model.
- Single-phase output is limited to 7,200 W by the wiring terminals on the 10/12 kW units.
- Packing is described by method only; carton dimensions and gross weight are supplied with the shipping documents.

Specifications are nominal and may change without notice. The contractual revision is the one confirmed in the order acknowledgement. Draft R01 for internal review.