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DATASHEET · EAP-DS-20261107-SDP12-R01

SDPO-12K

Split-phase hybrid inverter · 120/240 Vac · 48 V battery · 12 kW

A split-phase hybrid inverter for 120/240 Vac homes and small commercial sites. It combines dual MPPT solar charging, mains charging, UPS bypass and battery inversion, with natural cooling and a wall-mount cabinet of 620 × 450 × 132 mm. The 12 kW platform runs lithium or lead-acid banks from 40 V to 58.6/60 V and supports parallel expansion.

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



12 kW	120/240 Vac	2 MPPT	24.3 kg
RATED AC POWER	SPLIT-PHASE OUTPUT	PV TRACKERS	NET WEIGHT

KEY FEATURES

01
12 kW continuous
Rated AC output 12,000 W with a 12,000 VA apparent-power rating and 1.5× peak for 10 s.

02
Dual MPPT, 500 V
6,000 W + 6,000 W PV input across two trackers, 90–450 Vdc MPPT window, 120 V start-up and 500 Vdc maximum.

03
Battery flexible
Lithium or lead-acid banks from 40–58.6 Vdc, with 220 A charge and 270 A discharge current and BMS self-adaptation.

04
120/240 V split-phase
L1/N, L2/N and L1/L2 output at 120/240 Vac ±5 %, with 47–55 Hz and 57–65 Hz windows.

05
Natural cooling, IP20
Fan-free natural cooling, ≤ 60 dB, −10 to +55 °C with derating above 45 °C.

06
Parallel and monitoring
USB / RS485 / WiFi / GPRS and dry-contact control; monitoring through the WiFi app.

SCOPE OF SUPPLY

- SDPO-12K split-phase hybrid inverter
- Dual MPPT PV charger
- 48 V lithium / lead-acid battery interface
- WiFi monitoring
- Wall-mount bracket and manual

APPLICATION NOTE
Size the array to the MPPT window and the battery to the night load. The 120/240 V output needs a balanced panel; keep L1 and L2 loads within 20 % of each other for full output.

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TECHNICAL SPECIFICATIONS

AC INPUT AND OUTPUT

Rated AC power	**12,000 W**
Max apparent power	**12,000 VA**
Rated / max AC current	**50 A**
Max continuous passthrough	**60 A**
Output voltage	**120 (L1/N, L2/N) / 240 Vac (L1/L2), ±5 %**
Grid frequency	**47–55 Hz (50 Hz) / 57–65 Hz (60 Hz)**
Peak power, off-grid	**1.5 × rated, 10 s**
THDi	**3 %**
DC injection current	**< 0.5 %**

PV INPUT

Max PV input power	**6,000 W + 6,000 W**
Max operating PV current	**22 A + 22 A**
Max input short-circuit current	**220 A**
Rated PV input voltage	**272 V**
MPPT voltage range	**90–450 Vdc**
Max PV open-circuit voltage	**500 Vdc**
Start-up voltage	**120 V**
MPPT trackers / strings	**2 / no specific value (keep Voc ≤ 480 V)**
MPPT efficiency	**99.9 %**

BATTERY

Battery type	**Lithium-ion / lead-acid**
Battery voltage range	**40–58.6 Vdc**
Max charging current	**220 A**
Max discharging current	**270 A**
Battery inputs	**1**
Charging strategy	**Self-adaptation to BMS**

GENERAL AND COMPLIANCE

Max efficiency	**> 93 %**
Euro efficiency	**> 92 %**
Ingress protection	**IP20**
Operating temperature	**−10 to +55 °C (derating above 45 °C)**
Humidity / altitude	**5–95 % / 2,000 m**
Noise / cooling	**≤ 60 dB / natural cooling**
Dimensions (W × H × D)	**620 × 450 × 132 mm**
Net weight	**24.3 kg**
Warranty	**2 years**
Safety / EMC	**UI1741, FCC Part 15 Class B**
Grid regulation	**IEEE 1547**
Packing	**Single export carton**

NOTES

- Certifications are reproduced from the supplied sheet (UI1741 / FCC Part 15 / IEEE 1547); this model is documented to US standards, not the EU CE set.
- Grid-tied operation is available in hardware but is not certified on this platform, as stated in the source.
- 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.