

SINV MAXON / OFF GRID HYBRID SOLAR INVERTER

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High-capacity single-phase hybrid inverter/charger with dual MPPT trackers and a 160 A solar charger, for large residential, commercial and light industrial systems. Grid-tie, off-grid and hybrid operation with dual load outputs.

8.2–10.2
KW RATED POWER

160 A
MAX MPPT CURRENT

Dual
PV TRACKERS

98 %
PEAK EFFICIENCY

TYPICAL APPLICATIONS

- **Large residential** — whole-home supply including air conditioning, borehole pumps and electric cooking.
- **Commercial premises** — retail, hospitality, clinics and offices with substantial continuous load.
- **Institutions** — schools, health centres and places of worship with critical and non-critical circuits.
- **Generator hybridisation** — cuts diesel consumption by prioritising solar and battery supply.

KEY FEATURES

- **Three operating modes** — grid-tie, off-grid and hybrid, selectable on site.
- **Dual PV input** — two independent MPPT trackers for split or differently oriented arrays.
- **160 A MPPT solar charger**, the highest charge current in the SATTE range.
- **Dual load output** — separate main and second load terminals with automatic non-essential load shedding.
- Grid-tie, off-grid and hybrid modes; pure sine wave, power factor > 0.99.
- Wi-Fi and GPRS remote monitoring for iOS and Android.
- Built-in automatic lithium battery activation and dedicated BMS communication port.
- Runs with or without a battery; anti-dust kit and one-key factory reset fitted.

TECHNICAL SPECIFICATION

PARAMETER	SINV MAX 8.2KW-48V		SINV MAX 10.2KW-48V	
GENERAL				
Phase	Single phase			
Rated Output Power	8200 W / 8200 VA		10200 W / 10200 VA	
Maximum PV Input Power	5400 W + 5400 W (two trackers)			
Nominal Battery Voltage	48 VDC			
Maximum Conversion Efficiency (DC/AC)	98 %			
GRID-TIE OPERATION — PV INPUT (DC)				
Nominal / Maximum DC Voltage	360 VDC / 500 VDC			
Start-up / Initial Feeding Voltage	90 VDC / 120 VDC			
MPPT Voltage Range	90 – 450 VDC			
MPPT Trackers / Maximum Input Current	2 × 18 A			
GRID-TIE OPERATION — GRID OUTPUT (AC)				
Nominal Output Voltage	220 / 230 / 240 VAC			
Output Voltage Range	195 – 253 VAC			
Nominal Output Current	35.6 A		44.3 A	
Power Factor	> 0.99			
DUAL LOAD OUTPUT				
Full Load / Maximum Main Load	8200 W		10200 W	
Maximum Second Load (battery mode)	2733 W		3400 W	
Second Load Cut-Off Voltage	52 VDC			
Second Load Return Voltage	54 VDC			
OFF-GRID OPERATION — AC INPUT				
AC Start-up / Auto Restart Voltage	120 – 140 VAC / 180 VAC			
Acceptable Input Voltage Range	90 – 280 VAC or 170 – 280 VAC (selectable)			
Input Frequency Range ¹	59 – 61 ± 1 Hz — see Note 1			
Maximum AC Input Current	48.2 A		60 A	
OFF-GRID OPERATION — BATTERY MODE OUTPUT (AC)				
Nominal Output Voltage	220 / 230 / 240 VAC			
Output Waveform / Efficiency (DC to AC)	Pure sine wave 94 %			
BATTERY & CHARGER				
Maximum Solar Charging Current	160 A			
Maximum AC Charging Current (off-grid and hybrid)	140 A			
Maximum Solar + AC Charging Current	160 A			
Maximum Charging Power (48 V) ²	≈ 8.2 kW			
Minimum Battery Discharge Rating ²	182 A		226 A	
BATTERY BANK CONFIGURATION — BATTERIES ONLY, NOT SOLAR PANELS ⁴				
Battery Modules in Series	Not permitted — parallel connection only			
Min. Battery Modules — S100Ah, 48 V 100 Ah (4.8 kWh)	4		4	
Min. Battery Modules — 48 V 205 Ah (10.5 kWh)	2		2	
Min. Battery Modules — S280Ah, 48 V 280 Ah	1		2	
Max. Battery Modules in Parallel	8		8	
Recommended Battery Bank Capacity	20 – 41 kWh		21 – 41 kWh	
MECHANICAL, COMMUNICATION & COMPLIANCE				
Dimensions (H × W × D)	530 × 390 × 130 mm			
Carton Dimensions (H × W × D)	618 × 463 × 205 mm			
Net Weight	14.2 kg		14.7 kg	
Gross Weight	15.7 kg		16.2 kg	
Communication Ports	RS232 / RS485 / Wi-Fi / GPRS / Lithium battery BMS			
Remote Monitoring (Wi-Fi / app)	Yes — Wi-Fi or GPRS dongle, iOS and Android			
Operating Temperature / Humidity	–10 °C to +50 °C 5 % to 95 %, non-condensing			
Relative Humidity	5 % to 95 %, non-condensing			
Compliance / Safety Mark	CE			

SATTE

SINV MAX SERIES — CONTINUED

BATTERY COMPATIBILITY

ITEM	DETAIL
Battery types supported	LiFePO4 (lithium) with BMS communication; sealed lead-acid, AGM and gel
Compatible battery brands	Pylontech · Dyness · Hubble · Freedom Won · Felicity · Revov · PYTES · BSLBATT · Shoto · GSL · Greenrich · UZ Energy · Weco · Narada · Deye/Sunsynk · Growatt · GoodWe · Victron · SofarSolar · LuxPower · Solis · SMA · SRNE · Outback · AlphaESS
Basis of compatibility	Any LiFePO4 battery offering a Pylontech, Deye/Sunsynk, Growatt, GoodWe, Victron, SofarSolar, LuxPower, Solis, SMA, SRNE, Voltronic, Outback or AlphaESS BMS protocol mode. Pylontech CAN is the most widely emulated.
Not supported	BYD, all families — high-voltage models cannot connect; 48 V models are not on BYD's approved inverter list
Solar modules / generators / grid	Any brand, within the voltage, current and frequency limits in this datasheet
Verification required	Bench-test each battery model before sale — see document SATTE-TG-COMPAT-001

Note 1 — Input frequency, 50 Hz operation. The manufacturer states an AC input frequency window of 59 – 61 Hz, which describes 60 Hz operation only. No 50 Hz window is published for this series. Written confirmation of 50 Hz AC input acceptance must be obtained before this model is offered in any 50 Hz market, including Uganda and the wider East African region.

Note 2 — Battery sizing. Charging power is calculated at nominal 48 V. Minimum battery discharge rating is rated output power divided by nominal battery voltage at 94 % efficiency; the battery bank must be rated for at least this continuous current or rated output cannot be delivered. A bank must also accept the configured charge current: at 160 A this requires a battery, or parallel combination, rated accordingly.

Note 3 — Hybrid mode. PV and grid output parameters match grid-tie mode except for the values shown. Array open-circuit voltage must never exceed 500 VDC at the lowest expected ambient temperature; the MPPT will not track below 90 VDC.

Note 4 — Battery bank. Minimum module count is set by the discharge current needed to deliver rated output. Maximum is the largest bank this inverter's own solar array can fully recharge in a single day. Lithium modules with an integral BMS must never be wired in series.

Range status. SATTE SINV MAX is the approved designation for this series. The models are not yet held in stock; confirm lead time and the 50 Hz input question in Note 1 before accepting orders.

Grid connection. Grid-tie and hybrid modes export to the utility network. This requires prior approval from the local distribution network operator and compliance with national grid-code requirements. Where export is not permitted, configure for zero-export or off-grid operation.

SATTE — Super Reliable Products | SINV MAX Series On/Off Grid Hybrid Solar Inverter

Specifications are subject to change without notice. | SATTE-DS-SINVMAX-001 Rev 1.1