



# S1 Series

Three Phase Hybrid Inverter  
(10-30) KW



## KEY FEATURES

### OUTSTANDING PERFORMANCE

- **Max. 50A** battery charging and discharging design
- **200%** DC input overmatching
- Three-phase asymmetrical output under **100%** unbalanced loads

### FLEXIBLE APPLICATION

- Support multi-parallel connection
- Support single-phase power output mode
- **100~800V** wide battery voltage range

### SUPERB OFF-GRID LOAD

- Whole-home backup
- Support half-wave load and shock load
- **< 10ms** off-grid switching

### FRIENDLY DESIGN

- **≤ 36KG**, lighter installation
- Die-casting design, fanless design, low noise
- Support AFCI
- Remote troubleshooting and program upgrading

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### Technical data

Type Designation	SiH-10kW-TH-PRO	SiH-12kW-TH	SiH-15kW-TH	SiH-20kW-TH	SiH-25kW-TH	SiH-30kW-TH
<b>PV (input)</b>						
Max. recommended PV array power	20000 Wp	24000 Wp	30000 Wp	40000 Wp	50000 Wp	60000 Wp
Max. PV input voltage	1000 V					
Nominal PV input voltage	650 V					
MPP voltage range	150 V - 950 V					
No. of MPPT / Strings per MPPT	3 (1/1/1)	3 (1/1/1)	3 (2/1/1)	3 (2/2/1)		3 (2/2/2)
Max. PV current (PV1 / PV2 / PV3)	48A(16A / 16A / 16A)		64A(32A / 16A / 16A)		80A (32A / 32A / 16A)	
Max. short-circuit current (PV1 / PV2 / PV3)	60A( 20A / 20A / 20A)		80A( 40A / 20A / 20A)		100A (40A / 40A / 20A)	
<b>Battery (input/output)</b>						
Battery type	Lithium - ion					
Battery voltage range	100 V - 800 V					
Max. charge / discharge current	50 A / 50 A *					
Max. charge / discharge power	15000 W / 10000 W	15000 W / 12000 W	30000 W / 15000 W	30000 W / 20000 W	30000 W / 25000 W	30000 W / 30000 W
<b>Grid (input/output)</b>						
Max. AC power from grid	43000 W / 43000 VA					
Nominal AC output power	10000 VA	12000 VA	15000 VA	20000 VA	25000 VA	30000 VA
Max. AC output power	10000 VA	12000 VA	15000 VA	20000 VA	25000 VA	30000 VA
Max. AC output current	15.2 A	18.2 A	22.8 A	30.4 A	37.9 A	45.5 A
Rated AC voltage	3 / N / PE, 220 / 380 V; 230 / 400 V; 240 / 415 V					
AC voltage range	270 V - 480 V					
Rated grid frequency	50 Hz / 60 Hz					
Grid frequency range	45 Hz - 55 Hz / 55 Hz - 65 Hz					
THDI (Rated power)	< 3% (of rated power)					
Power factor at Rated power / Adjustable power factor	> 0.99 / 0.8 leading to 0.8 lagging					
<b>Backup (output)</b>						
Rated voltage	3 / N / PE, 220 V ; 230 V; 240 V					
Frequency range	50Hz / 60Hz					
THDV (Rated power, Linear load)	2%					
Back-up switching time	< 10 ms					
Rated output power during off grid mode	10000 VA	12000 VA	15000 VA	20000 VA	25000 VA	30000 VA
Peak output power during off grid mode**	15000 W / 15000 VA 10s	16800 W / 16800 VA 10s	25500 W / 25500 VA 10s	32000 W / 32000 VA 10s	36500 W / 36500 VA 10s	45000 W / 45000 VA 10s
Max. output power for backup load during on grid mode	43000 W / 43000 VA					
Max. output current for backup load during on grid mode	3*63A (25°C)					
<b>Efficiency</b>						
Max. efficiency / European efficiency	98.0 % / 97.5 %		98.1 % / 97.6 %		98.2 % / 97.8 %	
<b>Protection &amp; Function</b>						
On-grid parallel	Master-slave mode					
Surge Protection	DC Type II / AC Type II					
Insulation monitoring	Yes					
Grid monitoring	Yes					
DC reverse polarity protection	Yes					
AC short-circuit protection	Yes					
Residual current protection	Yes					
DC switch (solar)	Yes					
Battery input reverse polarity protection	Yes					
Over-heat protection	Yes					
AFCI	OPT					
<b>General Data</b>						
Topology (Solar / Battery)	Transformerless / Transformerless					
Degree of protection	IP65					
Dimensions (W * H * D)	615 mm * 460 mm * 245 mm					
Weight	34 kg		35 kg		36 kg	
Mounting method	Wall-mounting bracket					
Operating ambient temperature range	-25 °C - 60 °C (Derating above 45 °C)					
Allowable relative humidity range (Non-condensing)	0% - 100%					
Cooling method	Natural convection				Fan cooling	
Max. operating altitude	2000m					
Noise (Typical)	35 dB ( A )				50 dB ( A )	
Display	LED					
Communication	2 xRS485, WLAN, 2 x CAN					
DI / DO	4 x DI, 1 x DO, DRM0					
DC connection type	MC4 (PV, Max. 6mm <sup>2</sup> ) Plug and play connector (battery, Max. 10mm <sup>2</sup> )					
AC connection type	OT Terminals (grid / backup, Max. 20mm <sup>2</sup> )					
<b>STANDARD</b>						
Safety	EN / IEC62109 - 1 / - 2					
EMC	EN61000 - 6 - 1 / 2 / 3 / 4					
Certification	VDE4105 / EN50549 / TOR / CEI0-21 / AS4777					

\* Depending on the connected battery

\*\* Can be reached only if PV and battery power is sufficient