



Single-phase Hybrid Inverter Datasheet

- HYS-3.8LV-USG1**
- HYS-4.8LV-USG1**
- HYS-6.0LV-USG1**
- HYS-7.6LV-USG1**
- HYS-9.6LV-USG1**
- HYS-11.5LV-USG1**

Description

The HYS-LV-US Series is a high-performance single-phase hybrid inverter with excellent reliability, including power classes ranging from 3.8 kW to 11.5 kW.

The intelligent EMS function supports self-consumption mode, economic mode, and backup mode for multi-scenario applications.

Monitoring management through S-Miles Cloud allows users to remotely diagnose and track individual systems' performance over time, maximizing the total solar power production and battery utilization.

Features

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|-----------|---|-----------|---|
| 01 | Max. Efficiency 97.6%, CEC Efficiency 97.0% | 05 | Support 120/240V backup power without external autotransformer |
| 02 | Double MPPT tracker, up to 32A MPPT current | 06 | Seamless backup power for whole home or critical loads |
| 03 | DC/AC ratio up to 150% | 07 | Built-in dry contact flexibly set to earth fault alarm, load control or generator control |
| 04 | Ultralight for easy installation and space-saving | 08 | Integrated arc fault protection and rapid shutdown function |

Technical Specifications

Model	HYS-3.8LV-USG1	HYS-4.8LV-USG1	HYS-6.0LV-USG1	HYS-7.6LV-USG1	HYS-9.6LV-USG1	HYS-11.5LV-USG1
Battery						
Battery Type	Li-ion / Lead-acid					
Nominal Battery Voltage (V)	48					
Voltage Range (V)	40-60					
Max. Charge Current (A)	80	100	100	160	200	200
Max. Discharge Current (A)	80	100	100	160	200	200
Charging Strategy for Li-ion Battery	Self-adaption to BMS					
Charging Curve	3 Stages / Equalization					
External Temperature Sensor	Optional					
PV Input						
Max. PV Input Power (W)	5760	7200	9000	11520	14400	14400
Max. PV Input Voltage (V)	550					
Nominal Input Voltage (V)	380					
MPPT Voltage Range (V)	125-500					
Start-up Voltage (V)	150					
Number of MPPTs	2	2	2	2	2	2
Max. Number of PV String per MPPT	1/1	1/1	1/1	2/2	2/2	2/2
Max. PV Input Current (A)	16/16	16/16	16/16	32/32	32/32	32/32
Short-circuit Current of PV Input (A)	20/20	20/20	20/20	40/40	40/40	40/40
AC Input and Output (On-grid)						
Nominal Output Apparent Power (VA)	3840	4800	6000	7680	9600	11520
Max. Output Apparent Power (VA)	3840	4800	6000	7680	9600	11520
Max. Input Apparent Power (VA)	7680	9600	12000	15360	19200	19200
Nominal AC Voltage (V)	240					
Nominal Grid Frequency (Hz)	60					
Max. Output Current (A)	16	20	25	32	40	48
Max. Input Current (A)	32	40	50	64	80	80
Power Factor	0.8 leading ... 0.8 lagging					
Total Harmonic Distortion (@nominal output)	< 3%					
AC Output (Off-grid)						
Max. Output Apparent Power (VA)	3840	4800	6000	7680	9600	9600
Peak Output Apparent Power (VA)	7680, 10s	9600, 10s	12000, 10s	15360, 10s	19200, 10s	19200, 10s
Nominal AC Voltage (V)	120 / 240 (split phase)					
Nominal AC Frequency (Hz)	60					
Max. Continuous Output Current (A)	16	20	25	32	40	40
Total Harmonic Distortion (@ linear load)	< 3%					
Efficiency						
Max. Efficiency	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%
CEC Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%	97.0%
Max. Battery to Load Efficiency	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Protection						
Anti-islanding Protection	Integrated					
PV Arc Fault Detection	Integrated					
PV String Input Reverse Polarity Protection	Integrated					
Compliant MLRSD Products	Integrated					
Insulation Resistor Detection	Integrated					
Residual Current Monitoring Unit	Integrated					
AC Over Current Protection	Integrated					
AC Short Current Protection	Integrated					
AC Overvoltage and Undervoltage Protection	Integrated					
General						
Dimensions (W × H × D)	19.8 × 23.6 × 7.95 inch (502 × 615 × 202 mm)			19.8 × 29.1 × 7.95 inch (502 × 740 × 202 mm)		
Weight	68.3 lbs (31 kg)			90.4 lbs (41 kg)		
Mounting	Wall Mounting					
Operation Temperature (°F)	-13 to +149 (> 113, derating)					
Relative Humidity	0-95%, no condensing					
Altitude (m)	≤ 2000					
Cooling	Natural convection					
Protection Degree	Type 4X					
Noise (dB [A])	< 40					
User Interface	LED & App					
Communication with BMS	RS485, CAN					
Communication with Meter	RS485					
Communication Interface	RS485, Wi-Fi/Ethernet/4G (optional)					
Digital Input/output	1 × DI, 2 × DO					
Max Parallel	10					
Isolation Method (Solar / Battery)	Transformerless / High-frequency Isolation					
Certifications and Standards						
Grid Regulation	IEEE 1547-2018, IEEE 1547.1-2020, SRD2.0					
Safety Regulation	UL 1741, CSA C22.2 No.107.1, UL 1741 CRD, UL1741 SB					
AFCI	UL 1699B					
Software Approval	UL 1998					
EMC	FCC Part 15 Class B					

(1) Can be achieved only if PV and battery power are sufficient