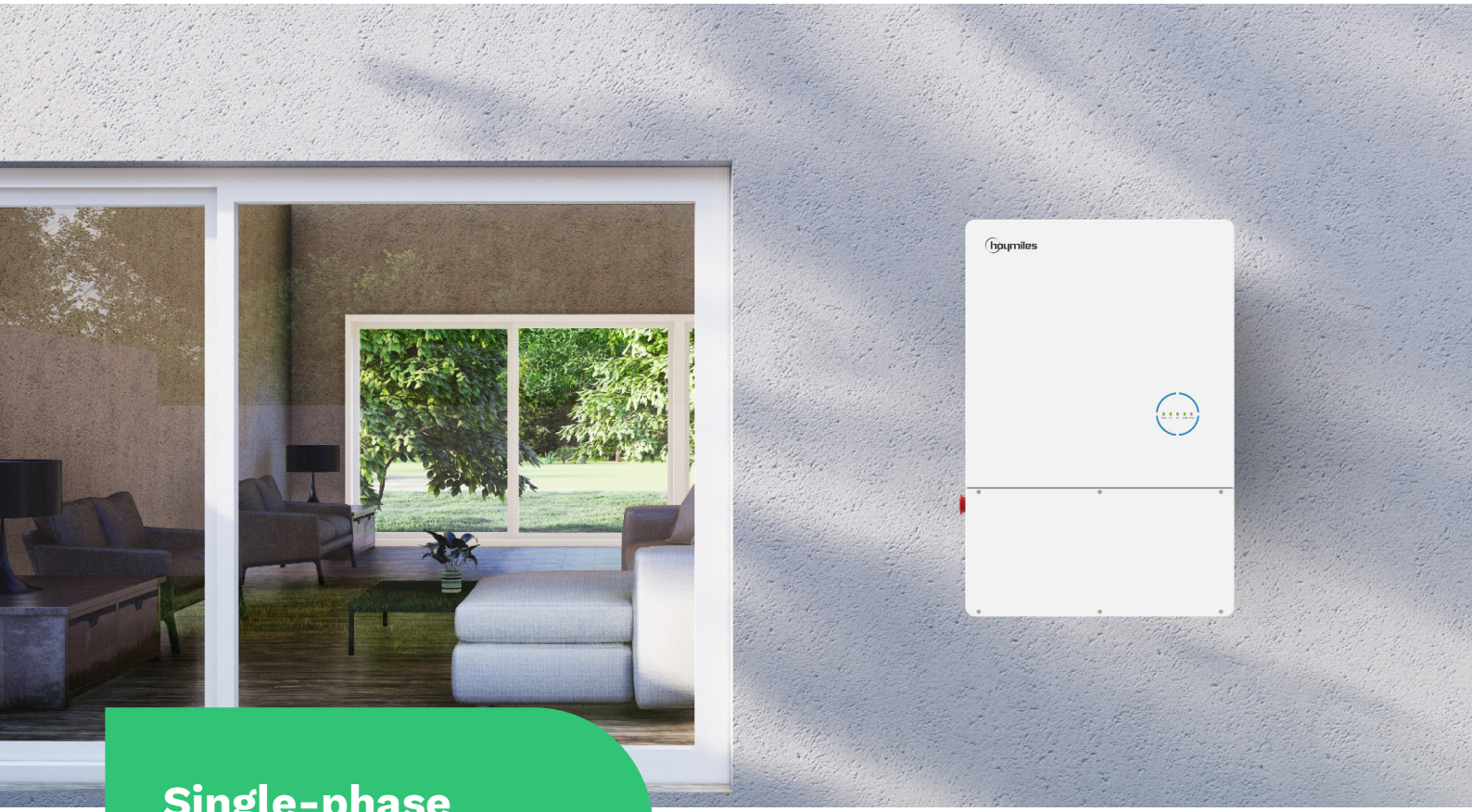

# Single-phase AC-coupled Inverter Datasheet

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

## Description

The HAS-LV-USG1 Series is for retrofit application, including power classes ranging from 3.8 kW to 11.5 kW. It can be installed with existing PV inverters, forming an AC-coupled system.

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

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

## Features

| | |
|---|---|
| 01 | Max. battery discharge to AC efficiency 95.0% |
| 02 | Compatible with various 48 V low voltage batteries |
| 03 | Ultralight for easy installation and space-saving |
| 04 | Split-phase backup output w/o bulky autotransformer |
| 05 | Seamless backup power for whole home or critical loads |
| 06 | Smart energy storage system operating modes |
| 07 | Built-in dry contact flexibly set to earth fault alarm, load control, or generator control |
| 08 | Remote monitoring through S-Miles Cloud |



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# Technical Specifications

| Model | HAS-3.8LV-USG1 | HAS-4.8LV-USG1 | HAS-6.0LV-USG1 | HAS-7.6LV-USG1 | HAS-9.6LV-USG1 | HAS-11.5LV-USG1 |
|---|---|---|---|---|---|---|
| **Battery** | | | | | | |
| Battery type | Li-ion/Lead-acid[1] | | | Li-ion/Lead-acid | | |
| Battery voltage range (V) | 40-60 | | | | | |
| Max. charge/discharge current (A) | 80/80 | 100/100 | 100/100 | 160/160 | 200/200 | 200/200 |
| Max. charge/discharge power (W) | 3840/3840 | 4800/4800 | 4800/4800 | 7600/7600 | 9600/9600 | 9600/9600 |
| Charging strategy for Li-ion battery | Self-adaption to BMS | | | | | |
| Charging curve | 3 Stages/Equalization | | | | | |
| External temperature sensor | Optional | | | | | |
| Communication | CAN | | | | | |
| **AC Input and Output (On-grid)** | | | | | | |
| Rated output power (W) | 3840 | 4800 | 6000 | 7680 | 9600 | 11520 |
| Max. output apparent power (VA) | 3840 | 4800 | 6000 | 7680 | 9600 | 11520 |
| Max. input power (W) | 7680 | 9600 | 9600 | 15360 | 19200 | 19200 |
| Rated AC output voltage/Range (V) | 240, 211-264 | | | | | |
| Rated grid frequency (Hz) | 60 | | | | | |
| Max. output current (A) | 16 | 20 | 25 | 32 | 40 | 48 |
| Max. input current (A) | 32 | 40 | 40 | 64 | 80 | 80 |
| Power factor | >0.99 (0.8 leading ... 0.8 lagging) | | | | | |
| THDi (@rated output) | <3% | | | | | |
| **AC Output (Off-grid)** | | | | | | |
| Rated output power (W) | 3840 | 4800 | 4800 | 7680 | 9600 | 9600 |
| Max. output apparent power (VA) | 7680, 10s | 9600, 10s | 9600, 10s | 15360, 10s | 19200, 10s | 19200, 10s |
| Back-up switch time (ms) | <40 | | | | | |
| Rated output voltage (V) | 120/240 (split phase) | | | | | |
| Rated output frequency (Hz) | 60 | | | | | |
| Max. continuous output current (A) | 16 | 20 | 20 | 32 | 40 | 40 |
| THDv (@linear load) | <3% | | | | | |
| **Efficiency** | | | | | | |
| Max. battery discharge to AC efficiency | 95.0% | 95.0% | 95.0% | 95.0% | 95.0% | 95.0% |
| **Protection** | | | | | | |
| Anti-islanding protection | Integrated | | | | | |
| AC over current protection | Integrated | | | | | |
| AC short current protection | Integrated | | | | | |
| AC overvoltage and undervoltage protection | Integrated | | | | | |
| Surge protection | DC Type II/AC Type III | | | | | |
| **General** | | | | | | |
| Dimensions (W × H × D) | 19.8 × 24.2 × 7.95 inch (502 × 615 × 202 mm) | | | 19.8 × 29.1 × 7.95 inch (502 × 740 × 202 mm) | | |
| Weight | 61.7 lbs (28 kg) | | | 81.6 lbs (37 kg) | | |
| Mounting | Wall mounting | | | | | |
| Operating temperature | -13°F to +149°F (>113°F, derating)/-25°C to +65°C (>45°C, derating) | | | | | |
| Relative humidity | 0-95%, no condensing | | | | | |
| Cooling | Natural convection | | | | | |
| Topology (Battery) | High-frequency isolation | | | | | |
| Altitude | ≤6562 ft (2000 m) | | | | | |
| Protection degree | Type 4X | | | | | |
| Noise (dB) | <40 | | | | | |
| User interface | LED & App | | | | | |
| Digital input/output | 1 × DI, 2 × DO | | | | | |
| Max. parallel | 10[2] | | | 10 | | |
| Communication | RS485, optional: Wi-Fi/Ethernet/4G[3] | | | | | |
| Warranty | 10 Years | | | | | |
| **Certifications and Standards** | | | | | | |
| Grid connection standard | IEEE 1547-2018, IEEE 1547.1-2020, SRD2.0 | | | | | |
| Safety/EMC standard | UL 1741, CSA C22.2 No.107.1, UL 1741 CRD, UL 1741 SB, FCC Part 15 Class B | | | | | |
| Software approval | UL 1998 | | | | | |

(1) Lead-acid batteries will be supported soon.
(2) On-grid and off-grid parallel solutions will be coming soon.
(3) The DTS-Ethernet and DTS-4G solutions will be coming soon.