

# RHI-1P(5-10)K-HVES-5G

## Solis PV Storage Inverter



### Model:

RHI-1P5K-HVES-5G   RHI-1P6K-HVES-5G   RHI-1P7.6K-HVES-5G  
RHI-1P9K-HVES-5G   RHI-1P10K-HVES-5G

### Features:

- ▶ Top-of-class 98.0% efficiency (CEC efficiency 97.5%)
- ▶ Dynamic MPPTs (2 MPPTs w/ 4 DC inputs)
- ▶ 3 operating modes: self-consumption; time-of-use; off-grid backup
- ▶ Compatible with LG and BYD High Voltage Li-Ion batteries
- ▶ High DC to AC ratio of 1.4
- ▶ Rule 21 Compliant
- ▶ Integrated MLRSD transmitter options
- ▶ Ready for NEC 2017-2020
- ▶ AFCI protection, proactively reduces fire risk
- ▶ Sealed enclosure with built-in AC/DC wiring box and ATS
- ▶ Large color LCD for easy programming
- ▶ 24-hour intelligent energy management system



### Ordering: RHI-1P(5-10)K-HVES-5G-DC-Meter

- SPRT (SunSpec MLRSD Transmitter)
- RGM-SPRT (Revenue Grade Meter and Transmitter)
- RSS (Tigo MLRSD Transmitter)
- RGM-RSS (Revenue Grade Meter and Tigo MLRSD Transmitter)

## Datasheet

| Model Name  | RHI-1P5K-HVES-5G  | RHI-1P6K-HVES-5G | RHI-1P7.6K-HVES-5G | RHI-1P9K-HVES-5G | RHI-1P10K-HVES-5G |
|---|---|------------------|--------------------|------------------|-------------------|
| <b>Input DC (PV side)</b>                         |   |                  |                    |                  |                   |
| Recommended max. PV power                         | 7 kW  | 8.4 kW           | 10.6 kW            | 12.6 kW          | 14 kW             |
| Max. input voltage                                | 500 V   |                  |                    |                  |                   |
| Rated voltage                                     | 330 V   |                  |                    |                  |                   |
| Start-up voltage                                  | 120 V   |                  |                    |                  |                   |
| MPPT voltage range                                | 90-450 V  |                  |                    |                  |                   |
| Max. input current                                | 26 A / 26 A   |                  |                    |                  |                   |
| Max. short circuit current                        | 40 A / 40 A   |                  |                    |                  |                   |
| MPPT number/Max. input strings number             | 2/4   |                  |                    |                  |                   |
| <b>Battery</b>                                    |   |                  |                    |                  |                   |
| Battery type                                      | Li-ion  |                  |                    |                  |                   |
| Battery voltage range                             | 120-500 V   |                  |                    |                  |                   |
| Battery capacity                                  | 50-2000 Ah  |                  |                    |                  |                   |
| Rated continuous charge/discharge power           | 6 kW  |                  |                    |                  |                   |
| Max. charge/discharge power                       | 7 kW  |                  |                    |                  |                   |
| Max. charge/discharge current                     | 20 A  |                  |                    |                  |                   |
| Communication                                     | CAN   |                  |                    |                  |                   |
| <b>Output AC (back-up)</b>                        |   |                  |                    |                  |                   |
| Rated output power                                | 6 kW  |                  |                    |                  |                   |
| Max. apparent output power                        | 7 kW, 1.2 s   |                  |                    |                  |                   |
| Back-up switch time                               | <10 ms  |                  |                    |                  |                   |
| Back-up switch time with ATR                      | < 300 ms  |                  |                    |                  |                   |
| Rated output voltage (L-L)                        | 240 V   |                  |                    |                  |                   |
| Rated output voltage (L-N) <sup>(1)</sup>         | 120 V   |                  |                    |                  |                   |
| Rated frequency                                   | 60 Hz   |                  |                    |                  |                   |
| Rated output current                              | 25 A  |                  |                    |                  |                   |
| THDv (@linear load)                               | <3%   |                  |                    |                  |                   |
| <b>Input AC (Grid side)</b>                       |   |                  |                    |                  |                   |
| Input voltage range                               | 190-280 V   |                  |                    |                  |                   |
| Max. input current                                | 48 A  |                  |                    |                  |                   |
| Frequency range                                   | 59.5-60.5 Hz  |                  |                    |                  |                   |
| <b>Output AC (Grid side)</b>                      |   |                  |                    |                  |                   |
| Rated output power                                | 5 kW  | 6 kW             | 7.6 kW             | 9 kW             | 10 kW             |
| Max. apparent output power                        | 5 kW  | 6 kW             | 7.6 kW             | 9 kW             | 10 kW             |
| Operation phase                                   | 1Φ/PE   |                  |                    |                  |                   |
| Rated grid voltage <sup>(2)</sup>                 | 208 V / 240 V   |                  |                    |                  |                   |
| Rated grid frequency                              | 60 Hz   |                  |                    |                  |                   |
| Rating grid output current                        | 24 A / 21 A   | 28.8 A / 25 A    | 36.5 A / 31.7 A    | 43.3 A / 37.5 A  | 48 A / 41.7 A     |
| Max. output current                               | 24 A  | 28.8 A           | 36.5 A             | 43.3 A           | 48 A              |
| Power Factor                                      | >0.99 (0.8 leading - 0.8 lagging)   |                  |                    |                  |                   |
| THDi  | <3%   |                  |                    |                  |                   |
| <b>Efficiency</b>                                 |   |                  |                    |                  |                   |
| Max. efficiency                                   | 98.0%   |                  |                    |                  |                   |
| CEC efficiency                                    | 97.5%   |                  |                    |                  |                   |
| <b>Protection</b>                                 |   |                  |                    |                  |                   |
| Ground fault monitoring                           | Yes   |                  |                    |                  |                   |
| Integrated AFCI (DC arc-fault circuit protection) | Yes   |                  |                    |                  |                   |
| DC reverse-polarity protection                    | Yes   |                  |                    |                  |                   |
| Rapid Shutdown NEC 2017                           | Built-in MLRSD Sunspec or Tigo Transmitter  |                  |                    |                  |                   |
| Compliant MLRSD Products                          | TS4-A-F/2F, APSmart RSD-S-PLC   |                  |                    |                  |                   |
| Protection class/Over voltage category            | I/II  |                  |                    |                  |                   |
| <b>General data</b>                               |   |                  |                    |                  |                   |
| Dimensions (W*H*D)                                | 21.3*28.3*9.8 in(540*720*250mm)   |                  |                    |                  |                   |
| Weight  | 62.6 lbs (28.4 kg)  |                  |                    |                  |                   |
| Topology  | Transformerless   |                  |                    |                  |                   |
| Operating temperature range                       | -13°F to 140°F (-25°C to 60°C)  |                  |                    |                  |                   |
| Ingress protection                                | TYPE 4X   |                  |                    |                  |                   |
| Cooling concept                                   | Natural convection  |                  |                    |                  |                   |
| Max. operation altitude                           | 6,560 ft (2000 m)   |                  |                    |                  |                   |
| Grid connection standard                          | IEEE1547A, UL 1741 SA, ISO-NE, CA Rule 21 phase III   |                  |                    |                  |                   |
| Safety/EMC standard                               | UL 1741 CRD, IEEE 1547, UL 1699B, UL 1998, UL 9540, CAN/CSA C22.2.107.1-1, FCC, Part 15 Class B, SRD-UL1741 |                  |                    |                  |                   |
| Compatible batteries                              | BYD B-Box H5.0/7.5/10, LG Energy Solutions RESU10H Type R   |                  |                    |                  |                   |
| <b>Features</b>                                   |   |                  |                    |                  |                   |
| DC connection                                     | 2 knockout for 1" conduit at side and bottom, Fuse screw terminal   |                  |                    |                  |                   |
| AC connection                                     | 3 knockout for 1" conduit at side and bottom, Screw clamp terminal  |                  |                    |                  |                   |
| Display   | 7.0"LCD color screen display  |                  |                    |                  |                   |
| Communication                                     | RS485, Optional: Wi-Fi, Cellular  |                  |                    |                  |                   |

(1) Needs to be used with ATR.

(2) Solis Hybrid inverter is designed to operate with a 1P Split Phase 120/240 V configuration.