

## Split Phase Hybrid Inverter

### PRODUCT MODEL

- QS 3000 HVSP
- QS 4000 HVSP
- QS 5000 HVSP
- QS 6000 HVSP
- QS 7600 HVSP
- QS 8600 HVSP
- QS 3600 HVSP
- QS 4600 HVSP
- QS 5500 HVSP
- QS 7000 HVSP
- QS 8000 HVSP
- QS 9600 HVSP

Max.  
**1.5**

**PV OVERSIZE**  
1.5 Times PV Oversize

**3**  
MPPT

**MPPT CHANNELS**  
Up to 3 MPPT Channels

**<10**  
ms

**UPS FUNCTION**  
Switch Time < 10ms



**PARALLEL**  
Max. 6 Parallel Stacking



**INPUT**  
Support Generator



**SPLIT-PHASE**  
Support Split-phase (120 / 240 Vac) Grid



Support for time-of-use optimization



Configurable operation modes



AFCI & Rapid shutdown ready



Build-in anti-feed-in function



Compact size and easy installation



Smart monitoring & Remote firmware upgrade

| PV INPUT                              | QS 3000 HVSP   | QS 3600 HVSP | QS 4000 HVSP | QS 4600 HVSP | QS 5000 HVSP | QS 5500 HVSP |
|---------------------------------------|--|--------------|--------------|--------------|--------------|--------------|
| Max. Input Power [kW]                 | 4.5  | 5.4          | 6.0          | 6.9          | 7.5          | 8.3          |
| Max. PV Voltage [V]                   | 600  |              |              |              |              |              |
| MPPT Range [V]                        | 80 - 550   |              |              |              |              |              |
| Normal Voltage [V]                    | 360  |              |              |              |              |              |
| Startup Voltage [V]                   | 100  |              |              |              |              |              |
| Max. Input Current [A]                | 15.5 x 2   |              |              |              |              |              |
| Max. Short Current [A]                | 26.0 x 2   |              |              |              |              |              |
| No. of MPP Tracker / No. of PV String | 2 / 2  |              |              |              |              |              |
| <b>BATTERY</b>                        |  |              |              |              |              |              |
| Max. Charge / Discharge Power [kW]    | 4.5 / 4.5  | 5.4 / 5.4    | 6.0 / 6.0    | 6.9 / 6.9    | 7.5 / 7.5    | 8.3 / 8.3    |
| Max. Charge / Discharge Current [A]   | 50   |              |              |              |              |              |
| Battery Normal Voltage [V]            | 230  |              |              |              |              |              |
| Battery Voltage Range [V]             | 80 - 495   |              |              |              |              |              |
| Battery Type                          | Li-ion / Lead- acid  |              |              |              |              |              |
| <b>AC GRID</b>                        |  |              |              |              |              |              |
| Max. Continuous Power [kVA]           | 3.0  | 3.6          | 4.0          | 4.6          | 5.0          | 5.5          |
| Max. Continuous Current [A]           | 15   | 17.5         | 19.5         | 22.5         | 24.5         | 27           |
| Nominal Grid Voltage [V]              | 211 to 264 @ 240 / 183 to 229 @ 208  |              |              |              |              |              |
| Nominal Grid Frequency [Hz]           | 60   |              |              |              |              |              |
| Output Power Factor                   | 1 default (adjustable from 0.8 leading to 0.8 lagging)   |              |              |              |              |              |
| Current THD [%]                       | <3   |              |              |              |              |              |
| <b>GEN INPUT&amp;AC BACK-UP</b>       |  |              |              |              |              |              |
| Max. Continuous Current [A]           | 15   | 17.5         | 19.5         | 22.5         | 24.5         | 27           |
| Max. Continuous Power [kVA]           | 3.0  | 3.6          | 4.0          | 4.6          | 5.0          | 5.5          |
| Max. Peak Current [A] [10min]         | 18.8 / 21.7  | 22.5 / 26.0  | 25 / 28.9    | 28.8 / 33.2  | 31.3 / 36.1  | 34.6 / 39.9  |
| Max. Peak Power [kVA] [10min]         | 4.5 / 4.5  | 5.4 / 5.4    | 6.0 / 6.0    | 6.9 / 6.9    | 7.5 / 7.5    | 8.3 / 8.3    |
| Nominal AC Voltage L-L [V]            | 240 / 208  |              |              |              |              |              |
| Nominal AC Voltage L-O [V]            | 120 / 104  |              |              |              |              |              |
| Nominal AC Frequency [Hz]             | 60   |              |              |              |              |              |
| Switching Time [ms]                   | < 10   |              |              |              |              |              |
| Voltage THD [%]                       | < 3  |              |              |              |              |              |
| <b>EFFICIENCY</b>                     |  |              |              |              |              |              |
| CEC Efficiency [%]                    | 97.0   |              |              |              |              |              |
| Max. Efficiency [%]                   | 97.6   |              |              |              |              |              |
| PV to Bat. Efficiency [%]             | 98.1   |              |              |              |              |              |
| Bat. between AC Efficiency [%]        | 96.8   |              |              |              |              |              |
| <b>PROTECTION</b>                     |  |              |              |              |              |              |
| PV Reverse Polarity Protection        | Yes  |              |              |              |              |              |
| Bat. Reverse Polarity Protection      | Yes  |              |              |              |              |              |
| Over Current / Voltage Protection     | Yes  |              |              |              |              |              |
| Anti-Islanding Protection             | Yes  |              |              |              |              |              |
| AC Short Circuit Protection           | Yes  |              |              |              |              |              |
| Residual Current Detection            | Yes  |              |              |              |              |              |
| Ground Fault Monitoring               | Yes  |              |              |              |              |              |
| Insulation Resister Detection         | Yes  |              |              |              |              |              |
| PV Arc Detection                      | Yes  |              |              |              |              |              |
| Rapid Shut Down                       | Yes  |              |              |              |              |              |
| Protection Degree                     | IP65 / NEMA4X  |              |              |              |              |              |
| <b>GENERAL DATA</b>                   |  |              |              |              |              |              |
| Dimensions [W * H * D]                | 400 x 600 x 229 mm / 15.7 x 23.6 x 9.0 in  |              |              |              |              |              |
| Weight                                | 25 kg / 55 lbs   |              |              |              |              |              |
| Topology                              | Transformerless  |              |              |              |              |              |
| Cooling                               | Natural Convection   |              |              |              |              |              |
| Relatively Humidity                   | 0 - 100 %  |              |              |              |              |              |
| Operating Temperature Range           | - 25 to 60°C / - 77 to 140°F   |              |              |              |              |              |
| Operating Altitude                    | < 4000m / < 13123ft  |              |              |              |              |              |
| Noise Emission [dB]                   | < 25   |              |              |              |              |              |
| Standby Consumption [W]               | < 10   |              |              |              |              |              |
| Mounting                              | Wall Bracket   |              |              |              |              |              |
| Communication with RSD                | SUNSPEC  |              |              |              |              |              |
| Display & Communication Interfaces    | LCD, LED, RS485, CAN, Wi-Fi, 4G  |              |              |              |              |              |
| Certification & Approvals             | UL 1741 SA, UL 1741, UL1699B, UL 1998, IEEE1547, IEEE1547A, IEEE1547.1, CSA 22.2 No. 107, Rule21, HECO Rule 14 |              |              |              |              |              |
| EMC                                   | FCC part15 CLASS B   |              |              |              |              |              |

| PV INPUT                              | QS 6000 HVSP   | QS 7000 HVSP | QS 7600 HVSP | QS 8000 HVSP    | QS 8600 HVSP | QS 9600 HVSP |
|---------------------------------------|--|--------------|--------------|-----------------|--------------|--------------|
| Max. Input Power (kW)                 | 9.0  | 10.5         | 11.4         | 12.0            | 12.9         | 15.0         |
| Max. PV Voltage (V)                   | 600  |              |              |                 |              |              |
| MPPT Range (V)                        | 80 ~ 550   |              |              |                 |              |              |
| Normal Voltage (V)                    | 360  |              |              |                 |              |              |
| Startup Voltage (V)                   | 100  |              |              |                 |              |              |
| Max. Input Current (A)                | 15.5 x 2   |              |              | 15.5 x 3        |              |              |
| Max. Short Current (A)                | 26.0 x 2   |              |              | 26.0 x 3        |              |              |
| No. of MPP Tracker / No. of PV String | 2 / 2  |              |              | 3 / 3           |              |              |
| BATTERY                               |  |              |              |                 |              |              |
| Max. Charge / Discharge Power (kW)    | 9.0 / 9.0  | 10.5 / 10.3  | 11.4 / 10.3  | 11.5 / 10.3     | 11.5 / 10.3  | 11.5 / 10.3  |
| Max. Charge / Discharge Current (A)   | 50   |              |              |                 |              |              |
| Battery Normal Voltage (V)            | 230  |              |              |                 |              |              |
| Battery Voltage Range (V)             | 80 - 495   |              |              |                 |              |              |
| Battery Type                          | Li-ion / Lead- acid  |              |              |                 |              |              |
| AC GRID                               |  |              |              |                 |              |              |
| Max. Continuous Power (kVA)           | 6.0  | 7.0          | 7.6          | 8.0             | 8.6          | 9.6          |
| Max. Continuous Current (A)           | 29.0   | 34.0         | 37           | 39              | 41.5         | 46.5         |
| Nominal Grid Voltage (V)              | 211 to 264 @ 240 / 183 to 229 @ 208  |              |              |                 |              |              |
| Nominal Grid Frequency (Hz)           | 60   |              |              |                 |              |              |
| Output Power Factor                   | 1 default (adjustable from 0.8 leading to 0.8 lagging)   |              |              |                 |              |              |
| Current THD (%)                       | <3   |              |              |                 |              |              |
| GEN INPUT&AC BACK-UP                  | QS 6000 HVSP   | QS 7000 HVSP | QS 7600 HVSP | QS 8000 HVSP    | QS 8600 HVSP | QS 9600 HVSP |
| Max. Continuous Current (A)           | 29.0   | 34.0         | 37           | 39              | 41.5         | 46.5         |
| Max. Continuous Power (kVA)           | 6.0  | 7.0          | 7.6          | 8.0             | 8.6          | 9.6          |
| Max. Peak Current (A) (10min)         | 37.5 / 43.3  | 43.8 / 49.5  | 47.5 / 49.5  | 47.9 / 49.5     | 47.9 / 49.5  | 47.9 / 49.5  |
| Max. Peak Power (kVA) (10min)         | 9.0 / 9.0  | 10.5 / 10.3  | 11.4 / 10.3  | 11.5 / 10.3     | 11.5 / 10.3  | 11.5 / 10.3  |
| Nominal AC Voltage L-L (V)            | 240 / 208  |              |              |                 |              |              |
| Nominal AC Voltage L-O (V)            | 120 / 104  |              |              |                 |              |              |
| Nominal AC Frequency (Hz)             | 60   |              |              |                 |              |              |
| Switching Time (ms)                   | <10  |              |              |                 |              |              |
| Voltage THD (%)                       | <3   |              |              |                 |              |              |
| EFFICIENCY                            |  |              |              |                 |              |              |
| CEC Efficiency (%)                    | 97.0   |              |              |                 |              |              |
| Max. Efficiency (%)                   | 97.6   |              |              |                 |              |              |
| PV to Bat. Efficiency (%)             | 98.1   |              |              |                 |              |              |
| Bat. between AC Efficiency (%)        | 96.8   |              |              |                 |              |              |
| PROTECTION                            | QS 6000 HVSP   | QS 7000 HVSP | QS 7600 HVSP | QS 8000 HVSP    | QS 8600 HVSP | QS 9600 HVSP |
| PV Reverse Polarity Protection        | Yes  |              |              |                 |              |              |
| Bat. Reverse Polarity Protection      | Yes  |              |              |                 |              |              |
| Over Current / Voltage Protection     | Yes  |              |              |                 |              |              |
| Anti-Islanding Protection             | Yes  |              |              |                 |              |              |
| AC Short Circuit Protection           | Yes  |              |              |                 |              |              |
| Residual Current Detection            | Yes  |              |              |                 |              |              |
| Ground Fault Monitoring               | Yes  |              |              |                 |              |              |
| Insulation Resister Detection         | Yes  |              |              |                 |              |              |
| PV Arc Detection                      | Yes  |              |              |                 |              |              |
| Rapid Shut Down                       | Yes  |              |              |                 |              |              |
| Protection Degree                     | IP65 / NEMA4X  |              |              |                 |              |              |
| GENERAL DATA                          | QS 6000 HVSP   | QS 7000 HVSP | QS 7600 HVSP | QS 8000 HVSP    | QS 8600 HVSP | QS 9600 HVSP |
| Dimensions (W x H x D)                | 400 x 600 x 229 mm / 15.7 x 23.6 x 9.0 in  |              |              |                 |              |              |
| Weight                                | 25 kg / 55 lbs   |              |              |                 |              |              |
| Topology                              | Transformerless  |              |              |                 |              |              |
| Cooling                               | Natural Convection   |              |              | Intelligent Fan |              |              |
| Relatively Humidity                   | 0 - 100 %  |              |              |                 |              |              |
| Operating Temperature Range           | - 25 to 60°C / - 77 to 140 °F  |              |              |                 |              |              |
| Operating Altitude                    | < 4000m / < 13123 ft   |              |              |                 |              |              |
| Noise Emission (dB)                   | < 25   |              |              | < 40            |              |              |
| Standby Consumption (W)               | < 10   |              |              |                 |              |              |
| Mounting                              | Wall Bracket   |              |              |                 |              |              |
| Communication with RSD                | SUNSPEC  |              |              |                 |              |              |
| Display & Communication Interfaces    | LCD, LED, RS485, CAN, Wi-Fi, 4G  |              |              |                 |              |              |
| Certification & Approvals             | UL 1741 SA, UL 1741, UL1699B, UL 1998, IEEE1547, IEEE1547A, IEEE1547.1, CSA 22.2 No. 107, Rule21, HECO Rule 14 |              |              |                 |              |              |
| EMC                                   | FCC part15 CLASS B   |              |              |                 |              |              |