

SureSine™Inverter Line

Sine Wave Inverter

- Superior Industrial Grade
- Remote Control via Dry-Contact
- Industry-Leading Safety, Low-Noise, High Performance
- Fanless Convection Cooling



Since 1993 the name Morningstar has been synonymous with industry-leading charge controllers, used in mission-critical applications around the world. With that heritage and reputation, "Morningstar of Inverters" has a very high bar to meet.

The new SureSine line was conceived for exactly that reason: meeting customer requests for a Morningstar inverter that's equal to the quality and performance of our charge controllers. These new models are more than up to that task.

KEY FEATURES AND BENEFITS

- Inverter Functions: DC/AC conversion with pure sinewave output
- Superior industrial-grade product design and manufacturing
- Engineered for system-level integration and communication with Morningstar charge controllers
- Communication ports: RS485 USB, Ethernet, MS-CAN, Bluetooth while using industry-standard MODBUS protocol
- Wireless Android and iOS utility apps included for set-up and monitoring with remote devices
- AC hardwire terminal option available on selected models (all power ranges and frequencies)
- Remote On/Off improves safety and enables control in inaccessible locations

- Auxiliary Power Output (700-2500 W models) provides power for an EIA-485 bus or other small DC loads
- Overbuilt, industrial-grade low-frequency transformer for improved sinewave stability
- Fanless convection cooling with extruded aluminum heat sinking, for maximum efficiency and reliability
- Status LEDs for both System and AC Sinewave output, to ensure reliable operation and notify of any system alerts
- Industry leading safety, low-noise and high performance NRTL certifications for reliability and system conformance
- Configuration can be achieved via manual DIP switch configuration or digitally programmable custom setpoints



SureSine communications and configuration features

- Communication ports include Ethernet, USB, MS-CAN
- Inverter can be configured either manually via a DIP switch or digitally programmed with custom setpoints









Operating Temperature Range* -40° to +60°C Peak Efficiency 89 / 89 / 90% 91 / 91 / 92% 91 / 90 / 92% Output Voltage Model Options 120 / 230V + /-5% V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2% Galvanically Isolated Self-Consumption:	Model Numbers	SureSine 150	SureSine 300	SureSine 700	
Maximum Battery Operating Voltage	Rated Battery Voltage	12, 24 or 48V	12, 24 or 48V	12, 24 or 48V	
Continuous Power®25C 150 W 300 W 700 W Power Surge @ 40C (< 5 sec)	Minimum Battery Operating Voltage	10.5 / 21.0 / 42.0 V			
Power Surge @ 40C (< 5 sec) 100 W 1 min Surge Power @40C 225W 450W 1050W 3 min Surge Power @40C 180 W 360 W 840 W 20perating Temperature Range* 40° to +60°C Peak Efficiency 89 / 89 / 90% 11 / 91 / 92% 91 / 90 / 92% Output Voltage Model Options 120 / 230V +/-5% V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) 22% Self-Consumption: AC Output On AC Output Off AC Output Protection against Short Circuit AC Output Protection against Overload AC Short Size Again, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 122 * 7.5 * 3.8 (in) 122 * 7.5 * 3.8 (in) 122 * 7.5 * 3.8 (in) 123 * 190 * 96 (mm) 122 * 7.5 * 3.8 (in) 123 * 190 * 96 (mm) 124 * 7.5 * 3.8 (in) 125 * 7.5 * 3.8 (in) 126 * 62109-1, IEC 62109-2, IEC 62388-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC-GE109-1, IEC 62109-2, IEC 62388-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes	Maximum Battery Operating Voltage	16.5 / 33.0 / 66.0 V			
1 min Surge Power @40C	Continuous Power@25C	150 W	300 W	700 W	
3 min Surge Power @40C 180 W 360 W 360 W 840 W Poperating Temperature Range* 40° to +60°C Peak Efficiency 89 / 89 / 90% 120 / 230V +/-5% V Output Voltage Model Options 120 / 230V +/-5% V Output Frequency Options Pure Sine Wave Total Harmonic Distortion (THD) 3 / 25% Self-Consumption: AC Output On AC Output Off AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Overload AC Output Protection against Overload AC Output Protection against Overload AC Output Protection against Alarm, Disconnect, Reconnect High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Cooling Fanless natural convection Operational Humidity Level Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs 12.2*7.5*3.8 (in) 12.1*7.75*3.8 (in) 12.1*7.75*3.8 (in) 12.1*7.75*3.8 (in) 12.2*7.76*3.8 (in) 12.1*7.75*3.8 (in) 12.2*7.76*3.8 (in)	Power Surge @ 40C (< 5 sec)	300 W	600 W	1400 W	
Operating Temperature Range* -40° to +60°C Peak Efficiency 89 / 89 / 90% 91 / 91 / 92% 91 / 90 / 92% Output Voltage Model Options 120 / 230V + /-5% V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	1 min Surge Power @40C	225 W	450 W	1050 W	
Peak Efficiency 89 / 89 / 90% 9 1 / 91 / 92% 9 1 / 90 / 92% Output Voltage Model Options 120 / 230V +/-5% V V Output Frequency Options 50 / 60 Hz V Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	3 min Surge Power @40C	180 W	360 W	840 W	
Output Voltage Model Options 120 / 230V +/-5% V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	OperatingTemperature Range*	-40° to +60°C			
Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	Peak Efficiency	89 / 89 / 90%	91 / 91 / 92%	91 / 90 / 92%	
Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	Output Voltage Model Options	120 / 230V +/-5% V			
Total Harmonic Distortion (THD) <29% Galvanically Isolated Yes Self-Consumption: 2.6 W O.65 W 3.9 W O.65 W <9.4 W AC Output Off AC Output Off AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity Replaceable internal fuse AC Output Protection against Short Circuit Yes AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 179 lbs Dimensions 312*190*96 (mm) 332*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wired Scommunications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wired Scommunications IEC/E	Output Frequency Options	50 / 60 Hz			
Galvanically Isolated Yes Self-Consumption:	Waveform	Pure Sine Wave			
Self-Consumption: 2.6 W 0.65 W 3.9 W 0.65 W <9.4 W < 2.8 W AC Output Orff AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity Replaceable internal fuse AC Output Protection against Short Circuit Yes AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 332*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*75*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Sefety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458 (pending) CE / U	Total Harmonic Distortion (THD)	<2%			
AC Output On AC Output Off AC Output Off	Galvanically Isolated	Yes			
AC Output On AC Output Off AC Output Off	Self-Consumption:				
AC Output Off Electronic Protections AC Short Circuit, AC Overload, High/LowVoltage Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Short Circuit AC Output Protection against Overload AC Output Protection again	·				
Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Overload Yes High Voltage Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458 (pending) CE / UKCA Compliant Yes Compliance	-	0.65 VV	0.65 W	<2.8 VV	
AC Output Protection against Short Circuit AC Output Protection against Overload AC Output Protection against Short Circuit Yes High Voltage Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs 8.1 Kg / 17.9 lbs AC Output Protection against Short Circuit Yes Dimensions 312*190*96 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 14.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, MS-CAN Wireless Communications Bluetoth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance	Electronic Protections	AC Short Circuit, AC Overload, High/Low Voltage			
AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 332*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485,USB,Enet, MS-CAN Wireless Communications Bluetoth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Battery Reverse Polarity	Replaceable internal fuse			
Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 332*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB,Enet, MS-CAN Wireless Communications Bluetoth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	AC Output Protection against Short Circuit	Yes			
High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 332*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485,USB,Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	AC Output Protection against Overload	Yes			
High Temperature Alarm, Disconnect, Reconnect Yes	Low Voltage Alarm, Disconnect, Reconnect	Yes			
Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 462*247*156 (mm) 12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetoth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	High Voltage Alarm, Disconnect, Reconnect	Yes			
Operational Humidity Level 100%RH non condensing Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 12.2*7.5*3.8 (in) 332*190*96 (mm) 13.1*7.5*3.8 (in) 462*247*156 (mm) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485,USB,Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	High Temperature Alarm, Disconnect, Reconnect	Yes			
Weight (kg) 3.8 Kg / 8.4 lbs 5.2 Kg / 11.5 lbs 8.1 Kg / 17.9 lbs Dimensions 312*190*96 (mm) 12.2*7.5*3.8 (in) 462*247*156 (mm) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Cooling	Fanless natural convection			
Dimensions 312*190*96 (mm) 12.2*7.5*3.8 (in) 332*190*96 (mm) 13.1*7.5*3.8 (in) 462*247*156 (mm) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB,Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Operational Humidity Level	100%RH non condensing			
12.2*7.5*3.8 (in) 13.1*7.5*3.8 (in) 18.2*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458 (pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Weight (kg)	3.8 Kg / 8.4 lbs	5.2 Kg / 11.5 lbs	8.1 Kg / 17.9 lbs	
Wired Communications RS485, MS-CAN RS485, USB, Enet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Dimensions				
Wireless Communications Bluetooth, companion Android & iOS Apps 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	IP Rating	IP20			
Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Wired Communications	RS485, MS-CAN RS485,USB,Enet, MS-CAN			
Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Wireless Communications	Bluetooth, companion Android & iOS Apps			
CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Data Storage	4MB / 5 years internal			
Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Safety Certifications	IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending)			
	CE / UKCA Compliant	Yes			
Warranty 5 Years	Compliance	IEC/E	EN 61000, IEC/EN 55032, IEC/E	N 55011	
	Warranty	5 Years			

^{*} power derating at high ambient temperatures 40 C and above

Specifications SureSine Inverter Series

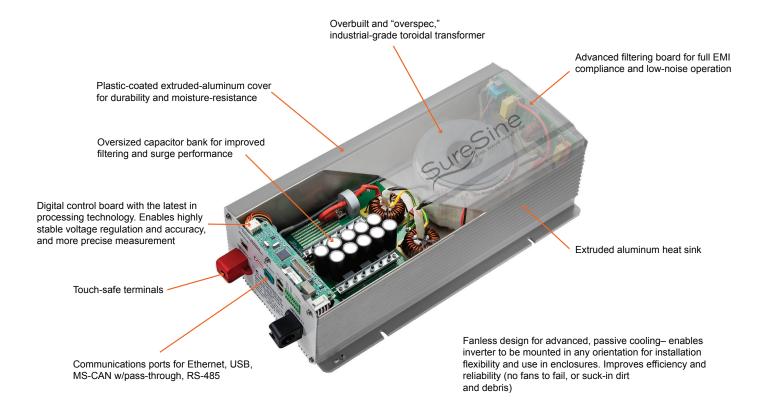


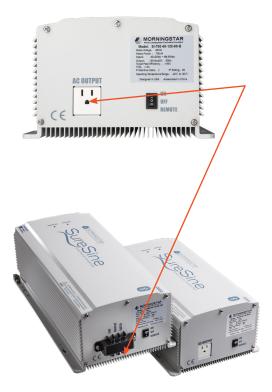




Rated Battery Optrating 24 or 48V 48V Minimum Battery Operating Voltage 10.5 / 21.0 / 42.0 V Continuous Power® 25C 1000 W 1185 / 33.0 / 68.0 V 2500 W Power Surge ® 40C (< 5 sec)	Model Numbers	SureSine 1000	SureSine 1250	SureSine 2500		
Maximum Battery Operating Voltage 16.5 / 33.0 / 66.0 V Continuous Power @25C 1000 W 1250 W 2500 W Power Surge @ 40C I < 5 sec)	Rated Battery Voltage	24 or 48 V	24 or 48 V	48 V		
Continuous Power 25C 1000 W 1250 W 2500 W Power Surge @ 40C (5 sec) 2000 W 2500 W 5000 W 1 min Surge Power @40C 1500 W 1575 W 3750 W 3 min Surge Power @40C 1200 W 1500 W 3000 W Operating Temperature Range* 40° to +60°C Peak Efficiency 93 / 93% 93 / 94% 95% Output Voltage Model Options 120 / 230V + /-5%V 100 Hz 120 / 230V + /-5%V Output Frequency Options 50 / 60 Hz 120 / 230V + /-5%V 100 Hz Waveform Pure Sine Wave 100 Hz 120 / 230V + /-5%V 100 Hz Self-Consumption: 40° to 160° to 170 / 42% 120 / 230V + /-5%V 100 / 24 / 24W 110 W	Minimum Battery Operating Voltage		10.5 / 21.0 / 42.0 V			
Power Surge @ 40C (< 5 sec) 2000 W 2500 W 5000 W 1 min Surge Power @40C 1500 W 1875 W 3750 W 3 min Surge Power @40C 1200 W 1500 W 3000 W Operating Temperature Range* -4.0° to +60°C	Maximum Battery Operating Voltage	16.5 / 33.0 / 66.0 V				
1 min Surge Power @40C 1500W 1875W 3750W 3 min Surge Power @40C 1200W 1500W 3000W Operating Temperature Range* -40° to +60°C 987 93% 93 / 94% 95% Output Voltage Model Options 120 / 230V +/55V 0.00 Hz 95% Output Voltage Model Options 50 / 60 Hz 120 / 230V +/55V Waveform Pure Sine Wave 100 Hz 120 / 230V +/55V Total Harmonic Distortion (THD) -22% 22% 22% Self-Consumption: 410 W 12 W 18.6 W 2.2 W 18.6 W 2.2 W 18.6 W 2.2 W 18.6 W 2.2 W 2.2 W 18.6 W 2.2 W </td <td>Continuous Power@25C</td> <td>1000 W</td> <td>1250 W</td> <td>2500 W</td>	Continuous Power@25C	1000 W	1250 W	2500 W		
3 min Surge Power @40C 1200W 1500W 3000W Operating Temperature Range* -40° to +60°C -40° to +60°C Peak Efficiency 93 / 93% 93 / 94% 95% Output Voltage Model Options 120 / 230V +/-5%V	Power Surge @ 40C (< 5 sec)	2000 W	2500 W	5000 W		
Operating Temperature Range* 40° to +60°C Peak Efficiency 93 / 93% 93 / 94% 95% Output Voltage Model Options 120 / 230V +/-5%V 120 / 230V +/-5%V Output Frequency Options 50 / 60 Hz ************************************	1 min Surge Power @40C	1500 W	1875 W	3750 W		
Peak Efficiency 93 / 93% 93 / 94% 95% Output Voltage Model Options 120 / 230V +/-5%V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	3 min Surge Power @40C	1200 W	1500 W	3000 W		
Output Voltage Model Options 120 / 230V +/-5%V Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) -22% Galvanically Isolated -758 Self-Consumption: -210 W -22 W -23 W -22 W </td <td>Operating Temperature Range*</td> <td colspan="4">-40° to +60°C</td>	Operating Temperature Range*	-40° to +60°C				
Output Frequency Options 50 / 60 Hz Waveform Pure Sine Wave Total Harmonic Distortion (THD) -2% Galvanically Isolated Yes Self-Consumption: -210W 12 W -22 W -22 4 W Self-Consumption: -210W 12 W -22 W -22 AW Self-Consumption: -22 W -22 AW -22 A	Peak Efficiency	93 / 93% 93 / 94% 95%				
Waveform Pure Sine Wave Total Harmonic Distortion (THD) <2%	Output Voltage Model Options		120 / 230V +/-5%V			
Total Harmonic Distortion (THD) <2% Galvanically Isolated Yes Self-Consumption: AC Output On AC Output Off <10 W	Output Frequency Options	50 / 60 Hz				
Galvanically Isolated Yes Self-Consumption: <10 W 12 W 18.6 W 22.4 W 22.	Waveform	Pure Sine Wave				
Self-Consumption: AC Output On AC Output Off AC Output Protections AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity Replaceable internal fuse AC Output Protection against Short Circuit Yes AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 20.6*9.7*6.1 (in) 1P Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance	Total Harmonic Distortion (THD)	<2%				
AC Output On AC Output Off Electronic Protections AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Short Circuit AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications AC Short Circuit, AC Overload, High/Low Voltage AMB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458 (pending) CE / UKCA Compliant Ves Compliance	Galvanically Isolated	Yes				
AC Output On AC Output Off Electronic Protections AC Short Circuit, AC Overload, High/Low Voltage Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Short Circuit AC Output Protection against Overload Yes Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications AC Short Circuit, AC Overload, High/Low Voltage AMB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458 (pending) CE / UKCA Compliant Ves Compliance	Self-Consumption:					
AC Output Off AC Short Circuit, AC Overload, High/Low Voltage						
Battery Reverse Polarity AC Output Protection against Short Circuit AC Output Protection against Short Circuit AC Output Protection against Overload Low Voltage Alarm, Disconnect, Reconnect High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 1PRating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance	AC Output Off	<2.3 VV	<2.2 vv	<2.4 vv		
AC Output Protection against Short Circuit AC Output Protection against Overload Low Voltage Alarm, Disconnect, Reconnect High Voltage Alarm, Disconnect, Reconnect High Temperature Alarm, Disconnect, Reconnect Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 1PRating P20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Electronic Protections	AC Short Circuit, AC Overload, High/Low Voltage				
AC Output Protection against Overload Low Voltage Alarm, Disconnect, Reconnect High Voltage Alarm, Disconnect, Reconnect High Temperature Alarm, Disconnect, Reconnect Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 1P Rating Fanless natural convection 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs 524*247*156 (mm) 20.6*9.7*6.1 (in) 1P Rating Fanless Fanless natural convection 100%RH non condensing Fanless natural convection Fanless natural convection 100%RH non condensing Fanless natural convection Fanles natural convection Fanless natural convection Fanles natural	Battery Reverse Polarity	Replaceable internal fuse				
Low Voltage Alarm, Disconnect, Reconnect Yes High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 524*247*156(mm) 544*247*156 (mm) 20.6*9.7*6.1 (in) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	AC Output Protection against Short Circuit	Yes				
High Voltage Alarm, Disconnect, Reconnect Yes High Temperature Alarm, Disconnect, Reconnect Yes Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 524*247*156(mm) 544*247*156 (mm) 20.6*9.7*6.1 (in) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	AC Output Protection against Overload	Yes				
High Temperature Alarm, Disconnect, Reconnect Yes	Low Voltage Alarm, Disconnect, Reconnect	Yes				
Cooling Fanless natural convection Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 544*247*156 (mm) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	High Voltage Alarm, Disconnect, Reconnect	Yes				
Operational Humidity Level 100%RH non condensing Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 524*247*156 (mm) 20.6*9.7*6.1 (in) 544*247*156 (mm) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	High Temperature Alarm, Disconnect, Reconnect	Yes				
Weight (kg) 10.6 Kg / 23.4 lbs 13.3 Kg / 29.3 lbs 22.1 Kg / 48.7 lbs Dimensions 524*247*156 (mm) 20.6*9.7*6.1 (in) 524*247*156 (mm) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Cooling	Fanless natural convection				
Dimensions 524*247*156 (mm) 524*247*156 (mm) 544*247*156 (mm) 20.6*9.7*6.1 (in) 20.6*9.7*6.1 (in) 21.4*9.7*6.1 (in) IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Operational Humidity Level	100%RH non condensing				
IP Rating IP20 Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Weight (kg)	10.6 Kg / 23.4 lbs	13.3 Kg / 29.3 lbs	22.1 Kg / 48.7 lbs		
Wired Communications RS485, USB, Ethernet, MS-CAN Wireless Communications Bluetooth, companion Android & iOS Apps Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Dimensions					
Wireless Communications Bluetooth, companion Android & iOS Apps 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	IP Rating	IP20				
Data Storage 4MB / 5 years internal Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Wired Communications	RS485, USB, Ethernet, MS-CAN				
Safety Certifications IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending) CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Wireless Communications	Bluetooth, companion Android & iOS Apps				
CE / UKCA Compliant Yes Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Data Storage	4MB / 5 years internal				
Compliance IEC/EN 61000, IEC/EN 55032, IEC/EN 55011	Safety Certifications	IEC-62109-1, IEC 62109-2, IEC 62368-1, UL 1741, UL 458(pending)				
	CE / UKCA Compliant		Yes			
Warranty 5 Years	Compliance	IEC/EN	N 61000, IEC/EN 55032, IEC/EN	I 55011		
	Warranty	5 Years				







AC options include:

- Hard-wire terminals for all markets and power levels
- Type B for North America 150, 300, and 700W versions
- Universal for International 150, 300, and 700W versions



Wireless Android and iOS utility apps included for set-up and monitoring with remote devices