

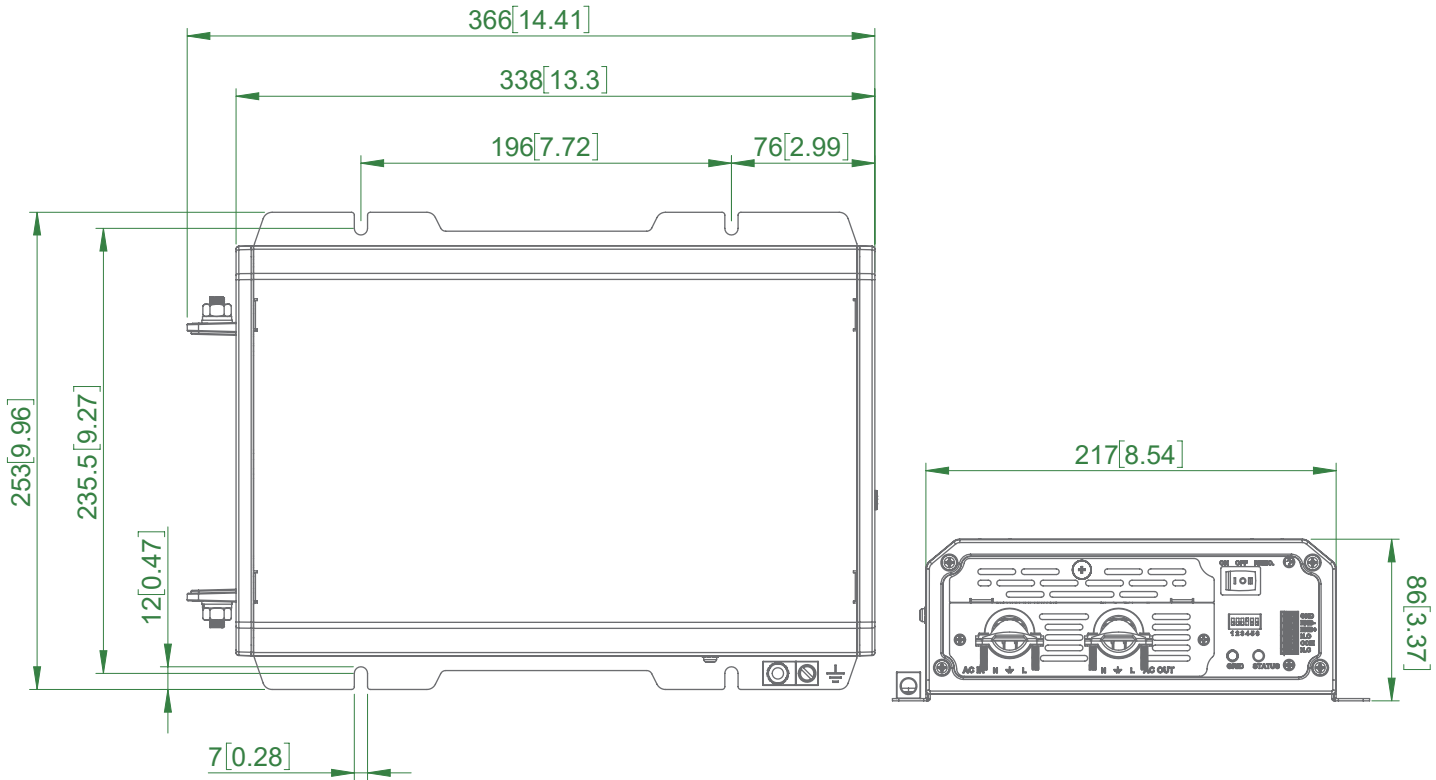
### Feature:

- High Power Density & Light Weight
- Built-in transfer switch and AC circuit breaker
- MODBUS(RS485) Protocol communication
- Reverse Protection with Indicator Light
- High Surge Tolerance
- Remote controller CR-8T / CR-22 (optional)
- Input & Output fully isolated



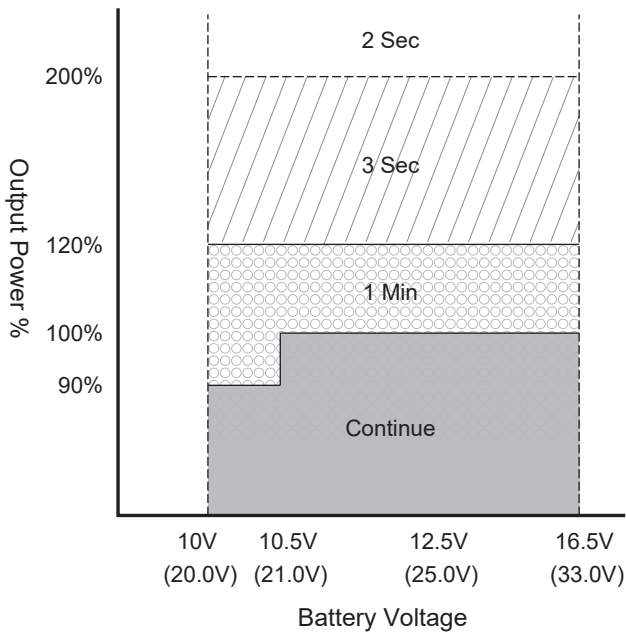
		SPT-2000-112	SPT-2000-124	SPT-2000-212	SPT-2000-224
<b>DC Input (Battery)</b>	Rated input voltage	12.5 VDC	25.0 VDC	12.5 VDC	25.0 VDC
	Operation range	10.0~16.5 ±0.3VDC	20.0~33.0 ±0.3VDC	10.0~16.5 ±0.3VDC	20.0~33.0 ±0.3VDC
	Over voltage protection	> 16.5 ±0.3VDC	> 33.0 ±0.3VDC	> 16.5 ±0.3VDC	> 33.0 ±0.3VDC
	Over voltage warning	> 15.5 ±0.3VDC	> 31.0 ±0.3VDC	> 15.5 ±0.3VDC	> 31.0 ±0.3VDC
	Under voltage protection	< 10.0 ±0.3VDC	< 20.0 ±0.3VDC	< 10.0 ±0.3VDC	< 20.0 ±0.3VDC
	Under voltage warning	< 11.0 ±0.3VDC	< 22.0 ±0.3VDC	< 11.0 ±0.3VDC	< 22.0 ±0.3VDC
	Over voltage restart	< 12.5 ±0.3VDC	< 25.0 ±0.3VDC	< 12.5 ±0.3VDC	< 25.0 ±0.3VDC
	Under voltage restart	> 13.5 ±0.3VDC	> 27.0 ±0.3VDC	> 13.5 ±0.3VDC	> 27.0 ±0.3VDC
	Max. Input current (@ ON mode , Full load)	220A @10.5VDC	107A @21.0VDC	220A @10.5VDC	107A @21.0VDC
	Standby Current (@ ON mode , No load)	≤ 2.0A @12.5VDC	≤ 1.0A @25.0VDC	≤ 2.0 A @12.5VDC	≤ 1.0 A @25.0VDC
Saving current (@ Saving mode , No load)	< 0.1A @12.5VDC	< 0.06A @25.0VDC	< 0.1A @12.5VDC	< 0.06A @25.0VDC	
Dark current @ Off mode	<100uA				
<b>AC Output (Inverter or Grid)</b>	Rated Power	2000VA			
	INV. Overload (≤ 1 min.)	2001 ~ 2400VA			
	INV. Peak Power (≤ 3 sec.)	2401 ~ 4000VA			
	INV. Peak Power (≤ 2 sec.)	> 4000VA			
	INV. Output Frequency	60/50Hz ± 0.3Hz (User-selectable)			
	INV. Output Voltage	UL version: 120 VAC ±3% ; Non UL version: 100/110/115/120 VAC±3% (User-selectable)		200 / 220 / 230 / 240 VAC ±3%	
	INV. Max. Efficiency	91%	92%	91%	92%
	Output Waveform	Pure Sine Wave			
Total Harmonic Distortion of Voltage (THD V)	< 3% (Bat. 12.5V / 25.0V @Resistive load)		< 3% (Bat. 12.5V / 25.0V @230VAC, Resistive load)		
<b>AC input (Grid)</b>	Nominal Voltage / Frequency	120VAC, 60/50Hz (User-selectable)		230VAC, 60/50Hz (User-selectable)	
	Voltage Range	70-150VAC		150-277VAC	
	Frequency Range	60/50Hz ±3Hz			
	Nominal current	24A		10A	
<b>Transfer switch</b>	Transfer relay rating	40A continuous			
	Transfer Time	≤ 20ms			
<b>Protection</b>	DC Input Protection	OVP, UVP, OCP(fuse), Reverse Polarity (mosfet)			
	AC Output Protection	Short-Circuit, Overload, Misconnection			
	AC Input Protection	OVP, OCP (30A breaker @ automatic reset type)		OVP, OCP (20A breaker @ automatic reset type)	
	Temperature protection	OTP (Enable by heatsink temperature > 95°C)			
<b>Signal and Control</b>	Remote Control Panel (Optional)	CR-8T / CR-22 (112 only)		CR-8T	
	Communication port	RJ45 x 2			
	Dry Terminal	ENB+, ENB-, GND, COM, N/C, N/O			
<b>Operating Temperature Range</b>	Full Load	-20 ~ +40°C			
	Power de-rating	+41 ~ +60°C			
	Storage	-40 ~ +70°C			
	Operating Humidity Range	0 ~ 95% RH, non-condensing			
	Cooling	Temperature & Load Controlled Cooling Fan			
<b>Mechanical Specification</b>	Dimension W x H x D (mm)	253 x 86 x 366			
	Net Weight (kg)	4.4			
<b>Safety and EMC</b>	Safety Standards	Certified UL458		Certified CE EN 62368-1	
	EMC Standards	Certified FCC Class B		Certified EN 55032 Class B, Certified EN 55035	
	E-mark	---		Certified ECE R10	

## ■ Mechanical Drawings

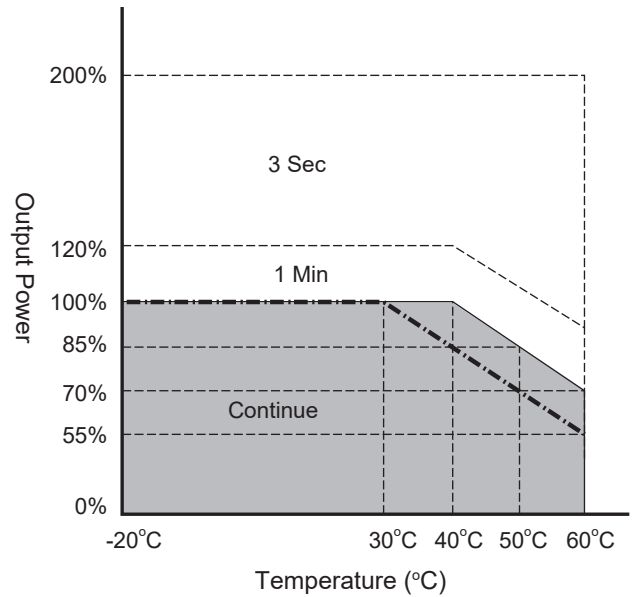


## ■ Power operating area and derating curve

Output power & Battery voltage operating area

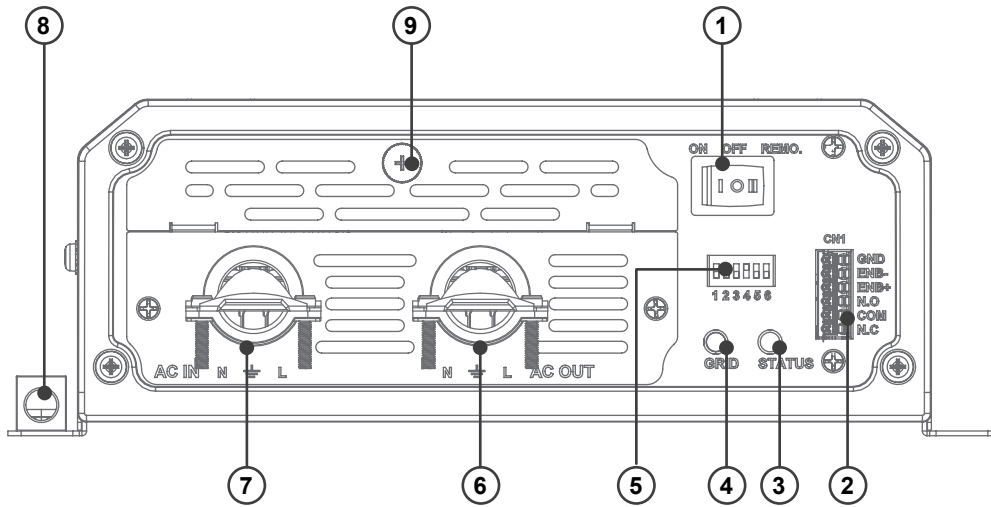


Output power & Ambient temperature derating curve



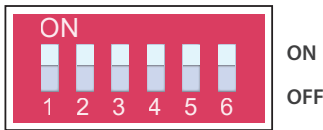
--- SPT-2000-212/224 @ Vout = 200Vac

## Front panel



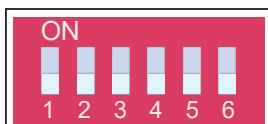
- ① Main Switch
- ② Remote Black Terminal
- ③ Unit Status LED
- ④ AC Power Only Status LED
- ⑤ Function Switch (6-Port)
- ⑥ AC-OUT Terminal
- ⑦ AC-IN Terminal
- ⑧ Ground Lug
- ⑨ Panel Screw

## Dip switch Function



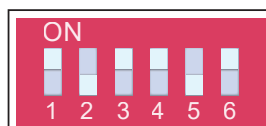
S1	S2	S3	S4	S5	S6	Function Description
OFF	---	---	---	---	---	AC output frequency : 60Hz
ON	---	---	---	---	---	AC output frequency : 50Hz
---	OFF	OFF	---	---	---	AC output voltage : 120VAC/240VAC
---	OFF	ON	---	---	---	AC output voltage : 115VAC/230VAC
---	ON	OFF	---	---	---	AC output voltage : 110VAC/220VAC
---	ON	ON	---	---	---	AC output voltage : 100VAC/200VAC
---	---	---	OFF	---	---	Power saving disable
---	---	---	ON	---	---	Power saving enable
---	---	---	ON	OFF	---	Power saving mode set to 5VA
---	---	---	ON	ON	---	Power saving mode set to 45VA
---	---	---	ON	---	OFF	Power saving mode time out disable
---	---	---	ON	---	ON	Power saving mode time out (10min)

Ex1: 120V(or 240V), 60Hz, Saving disable



OFF OFF OFF OFF OFF OFF

Ex2: 115V(or 230V), 50Hz, Saving enable, 5VA, 10min.

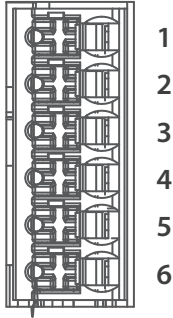


ON OFF ON ON OFF ON

## Remote Control & Green Terminal

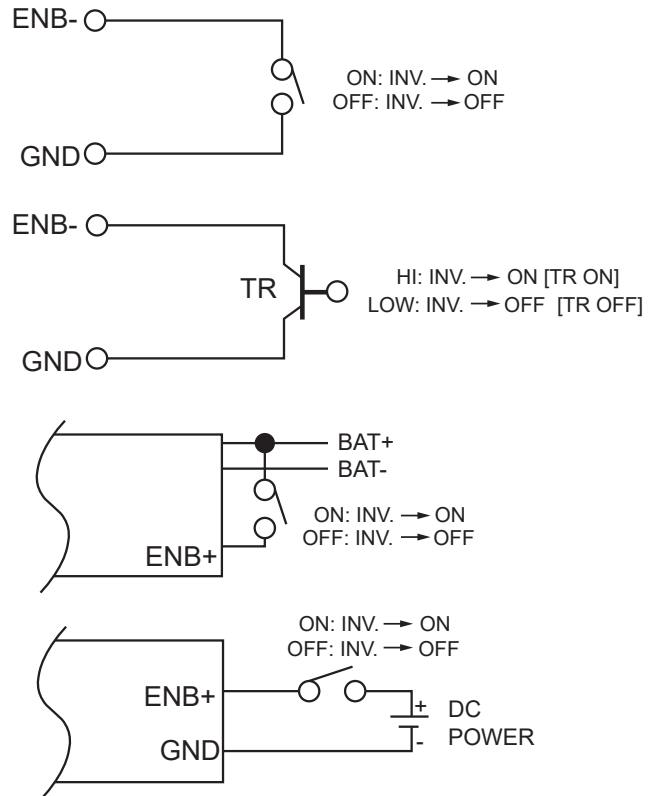
Remote control green terminal may be connected to a Form C relay for "FAULT" indication. When "FAULT" occurs, the relay switches.

Remote control terminal



Item	Description
1	Ground (GND)
2	Enable- (ENB-)
3	Enable+ (ENB+)
4	Dry contact (Normal Open)
5	Common
6	Dry contact (Normal Closed)











Dry contact terminal definition



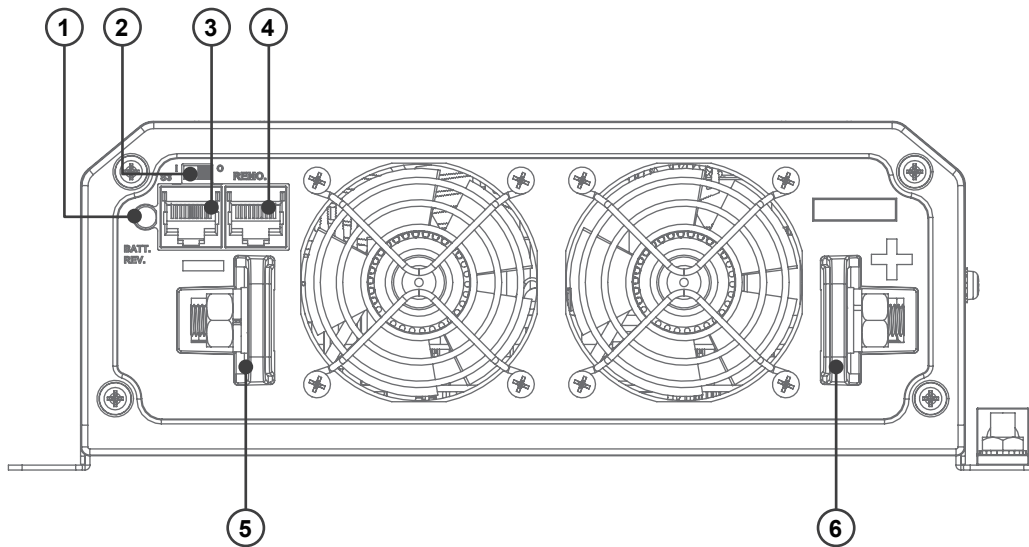
## Specifications of the Relay

Maximum Voltage	Load	Contact Rating		Number of operations	Operating/Storage Temperature
		N.O	N.C		
125 VAC	Resistive	0.5 A	---	100,000	-40°C ~ 85°C
125 VAC	Resistive	---	0.5 A	---	
30 VDC	Resistive	2 A	---	100,000	
30 VDC	Resistive	---	2 A	---	

## ■ Unit Status LED & AC Power Only LED Status

Unit Status LED	LED Signal	Status
Solid Green		Inverter mode
Slow Blink Green		Bypass mode
Slow Blink Orange		Bat. Over Voltage Alarm
Fast Blink Orange		Bat. Under Voltage Alarm
Intermittent Blink Red		Over Temperature Protection
Intermittent Blink Red		Bat. OVP Shut down
Intermittent Blink Red		Bat. UVP Shut down
Fast Blink Red		Over Load Protection
Solid Red		AC Output Misconnection Protection
AC Power Only LED	LED Signal	Status
Solid Blue		Grid In

## ■ Rear panel



① Battery Power in Reverse Status LED

② RS485 Terminator Switch

③ Remote Port (RJ45)

④ Remote Port (RJ45)

⑤ Batt- Input Terminal

⑥ Batt+ Input Terminal