

Even When the Lights

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# PREMIUM SERIES UNINTERRUPTIBLE POVER SUPPLY (6kVA ~ 10kVA)

UPREME

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SPM9110RT

www.supremepowersystems.com

## SPM9110RT - RACKMOUNT / TOWER, ONLINE UPS (1:1)

#### 6kVA ~ 10kVA

#### PF 1.0

#### **Features**

- Advanced DSP and 3-level technology
- Output power factor 1.0
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- Wide input voltage range (110 ~ 288 Vac) and frequency range (40 ~ 70 Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50 Hz input / 60 Hz output or 60 Hz input / 50 Hz output
- Hot-swappable battery
- Flexible battery configuration (settable 16 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Max. 12 A)
- Charging voltage and current configured by demands
- Linear derating in low voltage input reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%
- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- Compact internal layout, miniaturized the complete unit for small footprint
- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust self-diagnostic function, and abundant event log for check



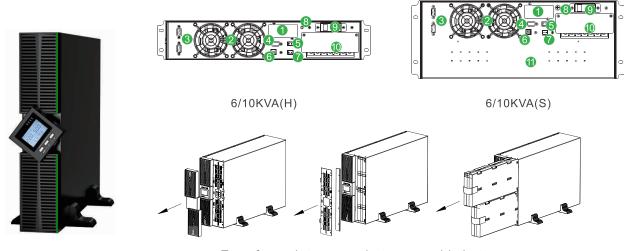
#### **Available Options**

- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms



### **Rear Panel**

- 1. SNMP (Optional)
- 2. Fans
- 3. Parallel (Optional)
- 4. RS232
- 5. EPO
- 6. USB (Optional)
- 7. Temperature Compensation (Optional)
- 8. GND
- 9. Bypass Breaker
- 10. Terminal Cover
- 11. Battery Pack



Display panel can be rotated

Easy for maintenance, hot-swappable battery



#### Specifications

Input wiling     Single-phase three-wire (0 + N + PE)       Nated Voltage     2001/220 (230 (240 Vac)       Voltage range     100 ~ 76 Vac (Inear derating between 50% kod 00% load); 76 ~ 289 Vac (no derating)       Baded frequeny     50 / 60 Fl [auto-sensing)       Baded frequeny     60 / 00 Fl [auto-sensing)       Power factor     2.09       Sypass voltage range     -0.00 + - 10.5 (settable)       Total harmonic distortion (1HD)     50 / 60 Fl [auto-sensing)       Output Wilng     0.00 + 2.00 / 220 / 220 / 240 Vac       Output Wilng     50 / 60 Fl [auto-sensing)       Rated voltage     2.08 / 4-0.9 / /220 / 220 / 240 Vac       Output Wilng     50 / 60 Fl [auto-sensing)       Rated voltage     50 / 60 Fl [auto-sensing)       Voltage regulation     1 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 0 % Hz in battery mode       Wowdorn     6 0 fl = 0.0 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 0 % Hz in battery mode       Wowdorn     10 2 % fl = 0.0 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 % Kin null. 50 % for 50 §       Frequency     10 2 % fl = 0.0 %       Fr	MODEL	SPM9106RT	SPM9110RT	
Input wiling     Single-phase three-wire (0 + N + PE)       Nated Voltage     2001/220 (230 (240 Vac)       Voltage range     100 ~ 76 Vac (Inear derating between 50% kod 00% load); 76 ~ 289 Vac (no derating)       Baded frequeny     50 / 60 Fl [auto-sensing)       Baded frequeny     60 / 00 Fl [auto-sensing)       Power factor     2.09       Sypass voltage range     -0.00 + - 10.5 (settable)       Total harmonic distortion (1HD)     50 / 60 Fl [auto-sensing)       Output Wilng     0.00 + 2.00 / 220 / 220 / 240 Vac       Output Wilng     50 / 60 Fl [auto-sensing)       Rated voltage     2.08 / 4-0.9 / /220 / 220 / 240 Vac       Output Wilng     50 / 60 Fl [auto-sensing)       Rated voltage     50 / 60 Fl [auto-sensing)       Voltage regulation     1 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 0 % Hz in battery mode       Wowdorn     6 0 fl = 0.0 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 0 % Hz in battery mode       Wowdorn     10 2 % fl = 0.0 %       Frequency     Synchronized to typoss in mains mole; 50 / 60 Hz 1 % Kin null. 50 % for 50 §       Frequency     10 2 % fl = 0.0 %       Fr	Capacity	6 kVA / 6 W	10 kVA / 10 W	
acad voltage     208 / 220 / 220 / 240 Vac.       Voltage range     TD ~ T76 Vac [linear derating between 50% and 100% local]; T6 ~ 288 Vac (no derating)       Rated frequency     30 / 60 Hz (auto-sensing)       Frequency range     40 ~ 70 Hz       Power factor     2.09       Stated frequency in ange     4.0% + 18% [statable]       OUTPUT     5%       OUTPUT     5%       Output wrining     Single phase [L-N]       Rated voltage range     5% [Gine [-0.9] / 200 / 220 / 240 Vac.       Voltage regulation     ± 1%       Frequency     Synchronized to byzas in maine mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     1       Synchronized to byzas in maine mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     15% [inner load]; 5% (or -linear load]       Creat factor     31       Creat factor     31       Creat factor     31       DC voltage     12 V/2 Ah + 16       DC voltage     12 V/2 Ah + 16       Standard mode!     12 V/2 Ah + 16       Standard mode!     12 V/2 Ah + 16       Standard mode!     12 V/2 Ah + 16       S	INPUT			
Notage rangeThe -TPG Vac (linear derating between 50% and 100% lead): TPG - 288 Vac (no derating)Taked frequency50 / 60 1/2 (Juncs-encing)Frequency range40 - 70 HzBypass voltage range0.09Bypass voltage range-40% - 70 HzDutput viringsingle-phase (L-N)Rated voltage range200 (PF-0.9) / 22 / 250 / 240 VacOutput viringSingle-phase (L-N)Rated voltage regulation1PrequencySynchronized to bypass in misminger, 50 / 60 Hz ± 0.0% Hz in battery modeSynchronized to bypass in misminger, 50 / 60 Hz ± 0.0% Hz in battery modeWaveformSingle-phase (L-N)Power factor1Total harmonic distortion (H102)% Winner load)Crest factor3Crest factor3Coverlage12 Vdc (H2 ± 240 Vdc settable)Number of battery12 Vd 7 Ah + 16Standard model (M2 ± 20 vdc settable)Number of battery12 Vd 7 Ah + 16Charging current12 Vd 7 Ah + 16Standard model (M2 ± 50 Ker Min, 1250 × 160 Ke	Input wiring	Single-phase three-wire (10 + N + PE)		
nated frequency     S0 / 60 Hz (auto-sensing)       Frequency range     40 - 70 Hz       Power factor     2099       System Voltage range     -400+rs + 15% (sertable)       Total harmonic distortion (THDI)     255       OUTPUT     200 (pP=0) / 220 / 220 / 240 Vac       Synchronized to bypass in main mode; 50 / 60 Hz 103% Fd In butty mode     1       Wordor     Synchronized to bypass in main mode; 50 / 60 Hz 103% Fd In butty mode       Wowdorm     Synchronized to bypass in main mode; 50 / 60 Hz 103% Fd In butty mode       Wowdorm     Synchronized to bypass in main mode; 50 / 60 Hz 103% Fd In butty mode       Wowdorm     102% - 110% for In bini, 10% FD Vac 4 So Mark 30 so       Barteries     1       Octoad     102% - 110% for In bini, 10% FD Vac 4 So Mark 30 so       Barteries     12 V/ 7 Ah + 16       DC voltage     12 V/ 7 Ah + 16       Number of battery     Standard mode! 14, Fd (optional)       Recharge time	Rated voltage	208 / 220 / 230 / 240 Vac		
Frequency range     40 - 70 Hz       Prever factor     5.059       Bypass voltage range    40% - 15% (settable)       Tatal harmonic distortion (THDI)     5.5%       OUTPUT	Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 288 Vac (no derating)		
Prover factor     ≥ 0.99       Bypass voltage range     - 4.0% - 15% (rottable)       Total harmonic distortion (THDI)     5.5%       Output wiring     Single-phase (L-N)       Rated voltage regulation     + 18.4%       Frequency     Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode       Creat factor     1       Total harmonic distortion (THDV)     5 / 160 Hz ± 0.1% Hz in battery mode       Sinuscidat     102% - 10% for 10 min, 10% - 125% for 1 min, 125% - 150% for 30 s       BATTERISE       DC voltage       Number of battery     12 V / 7 Ah + 16       Long time model: depend on model: 1 A; Long time model: depend on model: 1 A; Long time model: depend on mains       Recharge time     Standard model; 90% searchy restroking and fan faluere       Max. number of parallel connections     Standard model; 90% searchy restroking and fan faluer	Rated frequency	50 / 60 Hz (au	50 / 60 Hz (auto-sensing)	
Bypass voltage range    40%15% (settable)       Total harmonic distortion (THD)     5%       OUTPU     Single-phase (L-M)       Output wining     Single-phase (L-M)       Releat voltage regulation     1 %       Prequency     Synchronized to bypass in mains mode: 50 / 60 Hz + 01% Hz in battery mode       Naveform     Sinus-oidal       Power factor     1       Total harmonic distortion (THDV)     £1% (Linear load); £ 4% (non-linear load)       Creat factor     102% - 10% for 10 min, 110% - 125% for 1 min, 125% for 50 %       Overload     102% - 10% for 10 min, 110% - 125% for 1 min, 125% for 50 %       BartTenzes     12 V / 7 Ah + 16       DC voltage     12 V / 7 Ah + 16       Standard model: 1 Å; Long time model: 1 Å;       Recharge time     12 V / 7 Ah + 16     12 V / 9 Ah + 16       Standard model: 1 Å; Long time model: 1 Å;     A settable; 1 A (optional)       Recharge time     12 V / 7 Ah + 16     12 V / 9 Ah + 16       Standard model: 1 Å; Long time model: 1 Å;     A settable; 1 A (optional)       Recharge time     12 V / 7 Ah + 16     12 V / 9 Ah + 16	Frequency range	40 ~ 7	70 Hz	
Tatal harmonic distortion (THDI)   ≤ 5%     OUTPUT   Single-pise (L-N)     Baced voltage   208 (PF-09) / 220 / 230 / 240 Vac     Baced voltage regulation   ± 1%     Frequency   Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode     Waveford   Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode     Waveford   Synchronized to bypass in mains mode: 50 / 60 Hz ± 0.1% Hz in battery mode     Waveford   1     Total harmonic distortion (THDV)   1 % (non-linear load)     Crest factor   31     Overlaad   102% ~ 10% for 10 min, 110% + 15% w 150% for 30 s     BatTLERES   12 V/7 Ah × 16   2 V/9 Ah × 16     Dr voltage time   16 pcs (is < 20 settable)	Power factor	≥ 0.	≥ 0.99	
OUTPUT       OUTPUT     Single ->hase (L-N)       Rated voltage     208 (PF-03/220/230/240 Vac       Voltage regulation     208 (PF-03/220/230/240 Vac       Voltage regulation     ± 1%       Frequency     Synchronized to bypass in mans mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Sinu=oidal       Power factor     1       Total harmonic distortion (THDV)     \$1% (Innear load)       Creat factor     31       Coverload     102% r10% for 10 min, 10% +125% for 1 min,125% r150% for 30 s       BATTERES       DC voltage       DC voltage     192 Vdc (192 - 240 Vdc settable)       Number of battery     16 pcs [6 < 20 settable]	Bypass voltage range	- 40% ~ +15% (settable)		
Output wiring     Single-phase (L-N)       Rated voltage     208 (PF=0.3) / 220 / 230 / 240 Vac       Voltage regulation     1       Prequency     Synchronized to bypass in mains mode; 50 60 Hz 0.50 Hz 1 with a battery mode       Waveform     Synchronized to bypass in mains mode; 50 60 Hz 0.50 Hz 1 with a battery mode       Power factor     I       Total harmonic distortion (THDV)     Sith Sith Sith Sith Sith Sith Sith Sith	Total harmonic distortion (THDI)	≤ 5%		
Rated voltage     2018 (PF=0.9) / 22/ 240 Vac       Voltage regulation     ± 1%       Frequency     Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     1       Total harmonic distortion (THDV)     \$1% (linear load); \$4% (non-linear load)       Crest factor     3       Oxerload     1002% ~110% for 10 min, 10% -125% ~150% for 30 s       BATTERES     Do voltage       Do voltage     192 Vdc (192 - 24 Vdc settable)       Number of battery     16 pcs (16 - 20 settable)       Inbuilt battery (standard model)     12 V / 7 Ah × 16       Charging current     Standard model: 1A; Long time model: 54% (standard). 1 < 5 A settable; 12 A (optional)	OUTPUT			
Valage regulation     = 1%       Frequency     Synchronized to bypass in mains mode; 50 / 60 Hz ± 01%, Hz in battery mode       Waveform     Sinusoidal       Power factor     1       Total harmonic distortion (THDV)     £ 1% (linear load); £ 4% (non-linear load)       Crest factor     3       Overload     102% ~ 110% for 10 min, 110% ~ 125% for 1 min,125% ~ 150% for 3 o s       BATTERIES       DC voltage     12 V / 7 Ah × 16       DC voltage     12 V / 7 Ah × 16       Number of battery     16 pcs (lo ~ 20 settable)       Number of battery     12 V / 7 Ah × 16       DC voltage     12 V / 7 Ah × 16       Standard model: 1 A; Long time model: 5 A (default), 1 ~ 5 A settable; 12 A (optional)       Recharge time     Standard model: 90% capacity restored in 8 hours;       Standard model: 90% capacity restored in 8 hours;     Standard model: 90% capacity restored in 8 hours;       Standard model: 90% capacity restored in 8 hours;     Standard model: 90% capacity restored in 8 hours;       Standard model: 90% capacity restored in 8 hours;     Standard model: 90% capacity restored in 8 hours;       Standard model: 90% capacity restored in 8 hours;     Standard model: 90% capacity restored in 8 hours;       St	Output wiring	Single-phase (L-N)		
Frequency     Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode       Waveform     Sinusoidal       Power factor     1       Total harmonic distortion (THDV)     ≤ 1% (Inear load); ≤ 4% (nonlinear load)       Crest factor     31       Overload     102% - 10% for 10 min, 10% - 125% for 1 min,125% - 150% for 30 s       BATTERIES     DC voltage       DC voltage     12 V / 7 Ah + 16       Number of battery     12 V / 7 Ah + 16       Inbult battery (standard model)     12 V / 7 Ah + 16       Charging current     Standard model: 1 A; Long time model: 19% capacity restored in 8 hours;       SYSTEM     Standard model: 10 model: 10 min, 10% - 12 V / 9 Ah + 16       Max. number of parallel connections     Short-circuit, overload, overtemperature, battery low voltage, orworktage and fan failure that.       Max. number of parallel connections     R5232 (standard), USB / R5485 / dry contacts / SNMP / battery temperature compensation (optional)       Diplay     COC + UC       Orretters     Storage temperature       Storage temperature     COC + UC       Operating temperature     Stord B       Storage temperature     Stord B       Storage temperature     Stord B	Rated voltage			
Waveform     Sinuscidal       Power factor     1       Total harmonic distortion (THDV)     S 1% (linear load); s 4% (non-linear load)       Crest factor     3       Overload     102% + 10% for 10 min, 10% + 125% for 1 min,125% + 150% for 30 s       BATTERUS     Entreue       D voltage     192 Vdc (192 - 240 Vdc settable)       Number of battery     16 pcs (16 - 20 settable)       Inbuilt battery (standard model)     12 V/ 7 Ah × 16       Charging current     Standard model: 1A; Long time model: 5A (settable); 12 A (optional)       Recharge time     Standard model: 30% capacity restored in 8 hours; Long time model: 40% load, a s98% in ECO mode       Transfer time     0 ms       Protections     Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure       Max. number of parallel connections     4       Communications     R522 (standard), USB / PS485 / dry contacts / SIMM / battery temperature compensation (optional)       Diaplay     Charge s 296 (son - condensing)       Cotarge temperature     -25°C + 55°C (without battery)       Cotarge temperature     -25°C + 55°C (without battery)       Cotarge temperature     -25°C + 55°C (without battery)	Voltage regulation			
Waveform     Interval       Power factor     I       Total harmonic distortion (THDV)     S1% (linear load); ≤ 4% (non-linear load)       Crest factor     3       Overload     002% - 110% for 10 min, 110% + 150% for 30 s       BATTERUS     Entreval       Dvoltage     12 V / 9 Ah × 16       Number of battery     12 V / 7 Ah × 16       Inbuilt battery (standard model)     12 V / 7 Ah × 16       Charging current     Standard model: 1A; Long time model: 1A; keetuik) 5 A settable/; 12 A (optional)       Recharge time     Standard model: 90% capacity restored in 8 hours; Long time model: 40% load, as 945% at 60% load, s 986% in ECO mode       Transfer time     0     2 94% at 100% load, max. 94,5% at 60% load, s 986% in ECO mode       Transfer time     0     822 (standard), USB / PS485 / dry contacts / SIMMP / battery temperature compensation (optional)       Display     2 94% at 100% load, max. 94,5% at 60% load, s 986% in ECO mode       Transfer time     0     1       Max. number of parallel connections     \$ 822 (standard), USB / PS485 / dry contacts / SIMMP / battery temperature compensation (optional)       Display     0     CC + 40°C       Correntice     COrrentice     COrrentice <td>Frequency</td> <td colspan="2">Synchronized to bypass in mains mode; 50 / 60 Hz <math>\pm</math> 0.1% Hz in battery mode</td>	Frequency	Synchronized to bypass in mains mode; 50 / 60 Hz $\pm$ 0.1% Hz in battery mode		
Total harmonic distortion (THDV)     S % (linear load); ≤ % (non-linear load)       Creet factor     3       Overload     102% ~ 100% for 10 min, 110% ~ 125% for 1 min,125% ~ 150% for 30 s       BATTERIES       DC voltage     16 pcs (16 ~ 20 settable)       Number of battery     16 pcs (16 ~ 20 settable)       Inbuilt battery (standard model)     12 V/ 7 Ah × 16     12 V/ 9 Ah × 16       Charging current     Standard model: 1 A; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       Recharge time     Standard model: 90% capaactive stored in 8 hours; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       STETEM     Standard model: 90% capaactive stored in 8 hours; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       Storetare     Standard model: 90% capaactive stored in 8 hours; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       Storetare     Standard model: 90% capaactive stored in 8 hours; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       Storetare     Standard model: 90% capaactive stored in 8 hours; Long time model: 5 A (default),1 - 5 A settable; T2 A (optional)     Interport       Storetare     Storetare     Storetare     Interport     I				
Crest factor     31       Overload     102% ~ 110% for 10 min, 110% ~ 125% for 1 min, 125% ~ 150% for 30 s       BATTERIES     1200 voltage       DC voltage     192 Vdc (192 - 24 Vdc settable)       Number of battery     16 pcs (16 ~ 20 settable)       Inbuilt battery (standard model)     12 V/ 7 Ah × 16     12 V/ 9 Ah × 16       Charging current     Standard model: 90% capacity restored in 8 hours; Long time model: 50 K capacity restored in 8 hours; Long time model: 40 keap acity restored in 8 hours;     4       SYSTEM     Standard model: 90% capacity restored in 8 hours; Long time model: 40 keap 40% hoad, 298% in ECO mode     5       Protections     Short-circuit, overload, overtemperature, battery low voltage, undervoltage, undervoltage and fan failure     6       Max number of parallel connections     KS232 (standard), USB / RS485 / dry contacts / SIMP / battery temperature compensation (optional)     6       Display     COC + 40°     Store action (ap × 1000 m, derating % restored)     5       Orterters     Store action (ap × 1000 m, derating % restored)     5     5       Operating temperature     Store action (ap × 1000 m, derating % restored)     5     5       Operating temperature     Store action (ap × 1000 m, derating % restable)     5     5	Power factor			
Crest factor     31       Overload     102% ~ 110% for 10 min, 110% ~ 125% for 1 min, 125% ~ 150% for 30 s       BATTERIES     1200 voltage       DC voltage     192 Vdc (192 - 24 Vdc settable)       Number of battery     16 pcs (16 ~ 20 settable)       Inbuilt battery (standard model)     12 V/ 7 Ah × 16     12 V/ 9 Ah × 16       Charging current     Standard model: 90% capacity restored in 8 hours; Long time model: 50 K capacity restored in 8 hours; Long time model: 40 keap acity restored in 8 hours;     4       SYSTEM     Standard model: 90% capacity restored in 8 hours; Long time model: 40 keap 40% hoad, 298% in ECO mode     5       Protections     Short-circuit, overload, overtemperature, battery low voltage, undervoltage, undervoltage and fan failure     6       Max number of parallel connections     KS232 (standard), USB / RS485 / dry contacts / SIMP / battery temperature compensation (optional)     6       Display     COC + 40°     Store action (ap × 1000 m, derating % restored)     5       Orterters     Store action (ap × 1000 m, derating % restored)     5     5       Operating temperature     Store action (ap × 1000 m, derating % restored)     5     5       Operating temperature     Store action (ap × 1000 m, derating % restable)     5     5	Total harmonic distortion (THDV)	≤ 1% (linear load); ≤ 4% (non-linear load)		
BATTERIESDC voltage192 Vdc (192 ~ 240 Vdc settable)Number of battery16 pcs (16 ~ 20 settable)Inbuilt battery (standard model)12 V/7 Ah × 1612 V/9 Ah × 1612 V/9 Ah × 16Charging currentStandard model: 1 A; Long time model: 5 A (default) > 5 A settable; 12 A (optional)Recharge timeStandard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of batterySYSTEMEfficiency2 94% at 100% load, max. 94.5% at 60% load, 2 98% in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failureMax. number of parallel connections4CommunicationsR5232 (standard), USB / R5485 / dry contacts / SMMP / battery temperature compensation (optional)DisplayCLCD + LEDOperating temperature $0^{\circ}C < 40^{\circ}C$ Storage temperature $-25^{\circ}C - 55^{\circ}C$ (without battery)Relative humidity0 - 95% (non-condensing)Altitude100 m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m $\leq 55  dB$ Acta 1 M $\leq 55  dB < \leq 58  dB$ Dimensions (W × D × H) (mm) $54 \times 792 \times 148  (S), 514 \times 696 \times 186  (H)$ Netweight (kg)58 $(S), 12  (H)$ Storage temperature $\leq 55  dB < \leq 58  dB + 100 + $				
BATTERIESDC voltage192 Vdc (192 ~ 240 Vdc settable)Number of battery16 pcs (16 ~ 20 settable)Inbuilt battery (standard model)12 V/7 Ah × 1612 V/9 Ah × 1612 V/9 Ah × 16Charging currentStandard model: 1 A; Long time model: 5 A (default) > 5 A settable; 12 A (optional)Recharge timeStandard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of batterySYSTEMEfficiency2 94% at 100% load, max. 94.5% at 60% load, 2 98% in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failureMax. number of parallel connections4CommunicationsR5232 (standard), USB / R5485 / dry contacts / SMMP / battery temperature compensation (optional)DisplayCLCD + LEDOperating temperature $0^{\circ}C < 40^{\circ}C$ Storage temperature $-25^{\circ}C - 55^{\circ}C$ (without battery)Relative humidity0 - 95% (non-condensing)Altitude100 m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m $\leq 55  dB$ Acta 1 M $\leq 55  dB < \leq 58  dB$ Dimensions (W × D × H) (mm) $54 \times 792 \times 148  (S), 514 \times 696 \times 186  (H)$ Netweight (kg)58 $(S), 12  (H)$ Storage temperature $\leq 55  dB < \leq 58  dB + 100 + $	Overload			
DC voltage192 Vdc (192 ~ 240 Vdc settable)Number of battery16 pcs (16 ~ 20 settable)Inbuilt battery (standard model)12 V/ 7 Ah × 1612 V / 9 Ah × 1612 V / 9 Ah × 16Charging currentStandard model: 1 A; Long time model: 5 A (default)) ~ 5 A settable; 12 A (optional)Recharge timeStandard model: 00 especity restored in 8 hours; Long time model: depend on the capacity of batterySYSTEMStandard model: 00 msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure Max. number of parallel connectionsMax. number of parallel connectionsStor4 - 4ProtectionsStor4 - 4CommunicationsRe5232 (standard), USB / R5485 / dry contacts / SNMP / battery temperature compensation (optional) DisplayDisplayOr < - 55°C (without battery)	BATTERIES	· · · · · · · · · · · · · · · · · · ·	·	
Number of batteryIn bott 16 pcs (16 ~ 20 settable)Inbuilt battery (standard model)12 V/7 Ah × 16Charging currentStandard model: 1 A; Long time model: 5 A (default),1 ~ 5 A settable; 12 A (optional)Recharge timeStandard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of batterySYSTEMEfficiency $\geq$ 94% at 100% load, max. 94.5% at 60% load, $\geq$ 98% in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure Ax number of parallel connectionsMax. number of parallel connectionsR5232 (standard), USB / R5485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayCO° < 40°C		192 Vdc (192 ~ 240 Vdc settable)		
Inbuilt battery (standard model)I2 V/7 Ah × 16I2 V/9 Ah × 16Charging currentStandard model: 5 A (default), 1 ~ 5 A settable; 12 A (optional)Recharge timeStandard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of batterySYSTEMEfficiency $\geq$ 94% at 100% load, max. 94.5% at 60% load, $\geq$ 96% in ECO modeTransfer timeO msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan fail une At unber of parallel connectionsMax. number of parallel connectionsACommunicationsRS232 (standard), USB / R5485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayLCD + LEDOperating temperature $0^{\circ}C - 40^{\circ}C$ Storage temperature $0^{\circ}$ 95% (non-condensing)Altitude $0^{\circ}$ 95% (non-condensing)Altitude $1000$ m, derating 1% or each additional 100 mIP ratingIP 20Noise level at 1 m $\leq$ 55 dBDisplay $\leq$ 58 dBDimensions (W × D × H) (mm) $\leq$ 55 dBPackaged dimensions (W × D × H) (mm) $54 \times 792 \times 418$ (s), 514 × 696 × 168 (H)Net weight (kg)58 (S), 12 (H) $63$ (s), 14 (H)				
Charging current   Standard model: 1 A; Long time model: 5 A (default),1 ~ 5 A settable; 12 A (optional)     Recharge time   Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery     SYSTEM   Efficiency   ≥ 94% at 100% load, max. 94.5% at 60% load, ≥ 98% in ECO mode     Transfer time   O ms     Protections   Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure     Max. number of parallel connections   4     Communications   RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)     Display   LCD + LED     OrtHERS   Comparing temperature   Comparing temperature     Operating temperature   Standard) nodel: 90% (non-condensing)   Attract of Storage temperature     Attract   Storage temperature   Storage temperature   Storage temperature   Storage temperature     Noise level at 1 m   ≤ 55 dB   ≤ 58 dB   Storage temperature   Storage temperature   Storage temperature   Storage temperature   Storage temperature     Dimensions (W × D × H) (mm)   ≤ 55 dB   ≤ 58 dB   Storage temperature   Storage temperature   Storage temperature   Storage temperature   Storage temperature   Storage tempe				
Rectinge time   Long time model: depend on the capacity of battery     SYSTEM     Efficiency   > 94% at 100% load, max. 94.5% at 60% load, ≥ 98% in ECO mode     Transfer time   Oms     Protections   Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure     Max. number of parallel connections   RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)     Display   COTHERS     Operating temperature   O°C ~ 40°C     Storage temperature   O°C ~ 40°C     Altitude   O°C ~ 40°C     Noise level at 1 m   S55 dB   ≤ 55 dB     Dimensions (W × D × H) (mm)   S55 dB   ≤ 55 dB   ≤ 58 dB     Dimensions (W × D × H) (mm)   S68 (S), 12 (H)   S14 × 696 × 168 (H)     Netweight (kg)   S8 (S), 12 (H)   G3 (S), 14 (H)	Charging current	Standard model: 1 A;		
Efficiency $\geq 94\%$ at 100% load, max. 94.5% at 60% load, $\geq 98\%$ in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failureMax. number of parallel connectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failureMax. number of parallel connectionsRS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayRS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayCOTHERSOperating temperatureShort-circuit, overload, averlead at the start of the sta	Recharge time	Standard model: 90% capacity restored in 8 hours;		
Transfer time $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	SYSTEM			
ProtectionsShort-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failureMax. number of parallel connections $4$ CommunicationsRS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayLCD + LEDOTHERSOperating temperature $0^{\circ}C \sim 40^{\circ}C$ Storage temperature $0^{\circ}C \sim 55^{\circ}C$ (without battery)Relative humidity $0^{\circ}O^{\circ}S(non-condensing)$ Altitude $1^{\circ}O^{\circ}Storage temperatureIP rating1^{\circ}S55 dBDise level at 1 m\leq 55 dBDimensions (W × D × H) (mm)440 \times 660 \times 176 (S), 440 \times 580 \times 88 (H)Packaged dimensions (W × D × H) (mm)58 (S), 12 (H)At weight (kg)58 (S), 12 (H)$	Efficiency	≥ 94% at 100% load, max. 94.5% at 60% load, ≥ 98% in ECO mode		
Max. number of parallel connectionsACommunicationsRS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)DisplayLCD + LEDOTHERSOperating temperature $0^{\circ}C \sim 40^{\circ}C$ Storage temperature $0^{\circ}C \sim 55^{\circ}C$ (without battery)Relative humidity $0 \sim 95\%$ (non-condensing)Altitude $\leq 1000$ m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m $\leq 55$ dBDimensions (W × D × H) (mm) $440 \times 660 \times 176$ (S), $440 \times 580 \times 88$ (H)Packaged dimensions (W × D × H) (mm) $58$ (S), 12 (H)At weight (kg) $58$ (S), 12 (H)	Transfer time	0 ms		
CommunicationsRS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)Display $LCD + LED$ OTHERSOperating temperature $0^{\circ}C \sim 40^{\circ}C$ Storage temperature $-25^{\circ}C \sim 55^{\circ}C$ (without battery)Relative humidity $0 \sim 95\%$ (non-condensing)Altitude $\leq 1000$ m, derating 1% for each additional 100 mIP rating $\leq 55$ dBDimensions (W × D × H) (mm) $\leq 55$ dBPackaged dimensions (W × D × H) (mm) $554 \times 792 \times 418$ (s), $t \neq 696 \times 168$ (H)Net weight (kg) $58$ (S), 12 (H)	Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure		
DisplayLCD + LEDOTHERSOperating temperature $0^{\circ}C \sim 40^{\circ}C$ Storage temperature $-25^{\circ}C \sim 55^{\circ}C (without battery)$ Relative humidity $0 \sim 95\% (non-condensing)$ Altitude $\leq 1000 m, derating 1\% for each additional 100 mIP ratingIP 20Noise level at 1 m\leq 55 dB\leq 58 dBDimensions (W × D × H) (mm)5440 \times 660 \times 176 (s), 440 \times 580 \times 88 (H)Packaged dimensions (W × D × H) (mm)554 \times 792 \times 418 (s), 514 \times 696 \times 168 (H)Net weight (kg)58 (s), 12 (H)$	Max. number of parallel connections	4		
OTHERSOperating temperature $0^{\circ}C \sim 40^{\circ}C$ Storage temperature $-25^{\circ}C \sim 55^{\circ}C (without battery)$ Relative humidity $0 \sim 95\% (non-condensing)$ AltitudeI P 20IP ratingI P 20Noise level at 1 m $\leq 55 dB$ $\leq 58 dB$ Dimensions (W × D × H) (mm) $54 \times 792 \times 418 (S), 514 \times 696 \times 168 (H)$ Packaged dimensions (W × D × H) (mm) $58 (S), 12 (H)$ $63 (S), 14 (H)$	Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)		
Operating temperature $0^{\circ}C \cdot 4^{\circ}C$ Storage temperature $-25^{\circ}C \cdot 55^{\circ}C$ (without battery)Relative humidity $0^{\circ} 95\%$ (non-condensing)Altitude $\leq 1000$ m, derating 1% for each additional 100 mIP ratingIP ackaged at 1 mNoise level at 1 m $\leq 55$ dBDimensions (W × D × H) (mm) $\leq 55 dB$ Packaged dimensions (W × D × H) (mm) $554 \times 792 \times 418$ (S), $14 \times 666 \times 168$ (H)Net weight (kg) $58$ (S), 12 (H)	Display	LCD + LED		
Storage temperature-25°C ~ 55°C (without battery)Relative humidity0 ~ 95% (non-condensing)Altitude1000 m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m≤ 55 dBDimensions (W × D × H) (mm)440 × 660 × 176 (s), 440 × 580 × 88 (H)Packaged dimensions (W × D × H) (mm)554 x 792 x 418 (s), 514 x 696 x 168 (H)Net weight (kg)58 (s), 12 (H)	OTHERS			
Relative humidity0 ~ 95% (non-condensing)Altitude≤ 1000 m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m≤ 55 dBDimensions (W × D × H) (mm)≤ 55 dBPackaged dimensions (W × D × H) (mm)554 x 792 x 418 (s), 514 x 696 x 168 (H)Net weight (kg)58 (s), 12 (H)	Operating temperature	0°C ~ 40°C		
Altitude≤ 1000 m, derating 1% for each additional 100 mIP ratingIP 20Noise level at 1 m≤ 55 dBDimensions (W × D × H) (mm)≤ 55 dBPackaged dimensions (W × D × H) (mm)554 x 792 x 418 (S), 514 x 696 x 168 (H)Net weight (kg)58 (S), 12 (H)	Storage temperature	-25°C ~ 55°C (without battery)		
IP rating IP 20   Noise level at 1 m ≤ 55 dB   Dimensions (W × D × H) (mm) ≤ 55 dB   Packaged dimensions (W × D × H) (mm) 440 × 660 × 176 (S), 440 × 580 × 88 (H)   Packaged dimensions (W × D × H) (mm) 554 x 792 x 418 (S), 514 x 696 x 168 (H)   Net weight (kg) 58 (S), 12 (H)	Relative humidity	0 ~ 95% (non-condensing)		
Noise level at 1 m     ≤ 55 dB     ≤ 58 dB       Dimensions (W × D × H) (mm)     440 × 660 × 176 (S), 440 × 580 × 88 (H)       Packaged dimensions (W × D × H) (mm)     554 x 792 x 418 (S), 514 x 696 x 168 (H)       Net weight (kg)     58 (S), 12 (H)     63 (S), 14 (H)	Altitude	≤ 1000 m, derating 1% for each additional 100 m		
Noise level at 1 m     ≤ 55 dB     ≤ 58 dB       Dimensions (W × D × H) (mm)     440 × 660 × 176 (S), 440 × 580 × 88 (H)       Packaged dimensions (W × D × H) (mm)     554 x 792 x 418 (S), 514 x 696 x 168 (H)       Net weight (kg)     58 (S), 12 (H)     63 (S), 14 (H)	IP rating	IP 20		
Packaged dimensions (W × D × H) (mm)     554 x 792 x 418 (S), 514 x 696 x 168 (H)       Net weight (kg)     58 (S), 12 (H)     63 (S), 14 (H)		≤ 55 dB	≤ 58 dB	
Packaged dimensions (W × D × H) (mm)     554 x 792 x 418 (S), 514 x 696 x 168 (H)       Net weight (kg)     58 (S), 12 (H)     63 (S), 14 (H)	Dimensions (W × D × H) (mm)	440 × 660 × 176 (S),	440 × 580 × 88 (H)	
Net weight (kg) 58 (S), 12 (H) 63 (S), 14 (H)		554 x 792 x 418 (S),	554 x 792 x 418 (S), 514 x 696 x 168 (H)	
	Gross weight (kg)	68 (S), 14 (H)	73 (S), 16 (H)	

\* **S** means standard model, **H** means long time model \* All specifications are subject to change without notice

## SPM9100RT



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PRODUCT DATASHEET