

PowerOne RT 1-10kVA UPS System

High Efficiency and 1.0 Power Factor with Advanced DSP and 3-Level Technology



Data Centers



Hospitals



Banks and Financial
Institutions



Telecommunications



Industrial Facilities



Offices and Business
Centers



Educational Institutions

Product Family

The PowerOne RT Series is a true online, 3-Level topology, DSP-controlled uninterruptible power supply. It stands out with its high output power factor ($PF = 1$), effective input power factor correction, high charging current capacity, and design that provides maximum efficiency.

Offering an ideal solution for home-office applications, IT infrastructures, and data centers, the PowerOne RT Series;
provides a frequency converter mode, wide input voltage and frequency range, and rack and tower usage flexibility, easily adapting to different installation scenarios. Additionally, thanks to multiple communication options, it offers seamless integration with monitoring and management systems.



General Features

The PowerOne+ 100RT series is an uninterruptible power supply solution offering advanced technology and high performance. Below are the detailed technical specifications and capabilities of the product.



Advanced Technology

Superior performance with advanced DSP and 3-Level technology



1.0 Power Factor

Maximum efficiency with 1.0 output power factor



Smart Battery Management

Hot-swap battery and flexible configuration options



High Efficiency

95% efficiency (up to 98% in ECO mode)

Key Features and Capabilities

Power and Efficiency

- Advanced DSP and 3-Level technology
- 1.0 output power factor
- Active Power Factor Correction (APFC), input power factor up to 0.99
- 95% High efficiency (up to 98% in ECO mode)
- Advanced digital parallel technology

Input Features

- Wide input voltage range (110 - 288 Vac) and frequency range (40 - 70Hz)
- 50/60Hz frequency auto sensing
- Two frequency conversion modes: 50Hz input / 60Hz output or 60Hz input / 50Hz output

Battery Management

- Hot-swap battery
- Flexible battery configuration (adjustable 16 - 20 batteries)
- Digitally controlled charger
- High charging current available (Max. 12A)
- Configurable charging voltage and current according to demands
- Intelligent battery management, float / equalization charge control, charger sleep control, increasing battery life by 50%
- UPS cold start function

Smart Control

- Adjustable temporary startup time when grid power returns, impacting the grid or generator
- Fan speed intelligently changes according to temperature, reducing noise and extending service life

User Interface and Communication

Compact Design

Compact internal layout, takes up little space

LCD+LED Display

Multi-function button operation, user-friendly interface

Powerful Software

Powerful background software for parameter configuration

Multiple Communication

RS232, USB, RS485, SNMP and dry contacts communication interfaces

Protection and Security

Effective software and hardware protection function, extensive event log for control

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

Technical Specifications

MODEL	PowerOne+ 101RT	PowerOne+ 103RT	PowerOne+ 105RT	PowerOne+ 106RT	PowerOne+ 110RT
Capacity	1 kVA	3 kVA	5 kVA	6 kVA	10 kVA

INPUT Specifications

Input wiring	1F- 3 Wire (1Ø + N + T)
Voltage	208 / 220 / 230 / 240 Vac
Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 288 Vac (no derating)
Frequency	50/60Hz (auto sensing)
Frequency range	40 ~ 70 Hz
Power factor	0.99
By-pass voltage range	- 40% ~ +15% (adjustable)
THDi	≤ 5%

OUTPUT Specifications

Output wiring	Single phase (F- N)
Voltage	208 (PF=0.9) / 220 / 230 / 240 Vac
Voltage regulation	± 1%
Frequency	Synchronized to bypass in mains mode; 50/60Hz ± 0.1% Hz in battery mode
Waveform	Sine wave
Power factor	1.0
Voltage THD	≤ 1% (linear load); ≤ 4% (non-linear load)
Crest factor	3:1
Overload	105% ~ 110% for 10 minutes, 110% ~ 125% for 1 minute, 126% ~ 150% for 30 seconds

BATTERIES

Feature	PowerOne+ 101RT	PowerOne+ 103RT	PowerOne+ 105RT	PowerOne+ 106RT	PowerOne+ 110RT
DC voltage	192 Vdc (192 ~ 240 Vdc adjustable)				
Number of batteries	16 units (16 ~ 20 adjustable)				
Internal battery (standard model)	12V / 5Ah x 16	12V / 7Ah x 16	12V / 7Ah x 16	12V / 7Ah x 16	12V / 200Ah x 16
Charging current	Standard model: 1A; Long run model: 5A (default), 1 ~ 5A adjustable; 12A (optional); PF 0.9)				
Charging time	Standard model: 90% capacity restored in 8 hours; Long run model: depends on battery capacity				

SYSTEM Specifications

Efficiency	≥ 694% at 100% load, max 94.5% at 60% load, ≥ 98% in ECO mode
Transfer time	0 ms
Protections	Short circuit, overload, over temperature, battery low voltage, over voltage, low voltage, and fan failure
Number of parallel connections	4
Communication	RS232 (standard), USB / RS485 / dry contacts / SNMP / Battery temperature compensation (optional)
Display	LCD + LED

GENERAL Specifications

Feature	PowerOne+ 101RT	PowerOne+ 103RT	PowerOne+ 105RT	PowerOne+ 106RT	PowerOne+ 110RT
Operating temperature	0°C ~ 40°C				
Storage temperature	- 25°C ~ 55°C (without battery)				
Relative humidity	0 ~ 95% (non-condensing)				
Altitude	≤ 1000 m, 1% derating for each additional 100 m				
IP class	IP 20				
Noise level	≤ 50 dB	≤ 52 dB	≤ 54 dB	≤ 55 dB	≤ 65 dB
Dimensions	580 x 88 x 440 (H) / 660 x 176 x 440 (S) (WxDxH) (mm)				
Packed dimensions (WxDxH) (mm)	696 x 168 x 514 (H) / 792 x 418 x 554 (S)				
Net weight (kg)	10 (H), 50 (S)	11 (H), 54 (S)	11.5 (H), 56 (S)	12 (H), 58 (S)	180 (H), 850 (S)
Gross weight (kg)	12 (H), 60 (S)	13 (H), 64 (S)	13.5 (H), 66 (S)	14 (H), 68 (S)	200 (H), 920 (S)

 **Note:** S stands for standard model, H stands for long-run model