Catalog
UPS

2025

AEC

www.aecups.com

UPS Online | Series RADIANT-IB

Power capacity: 20-100 kVA

AEC Radiant-IB (Internal Batteries Model) Series UPS (20–100 kVA) is a modular three-phase solution with internal batteries hot-swappable trays, designed for maximum flexibility, efficiency, and resilience.
Built on a **scalable N+X architecture,** the system allows hot-swappable 20 kW power modules within a compact 100 kVA frame, including max 240 pcs 12V/9Ah internal batteries — ideal for growing power demands without system downtime.

Its modularity ensures redundancy and fault tolerance, reducing the risk of critical failures and simplifying maintenance operations. With high-efficiency online double conversion and **unity power factor (PF = 1)**, the Radiant Series delivers clean, reliable power while minimizing energy losses.

Description

The Radiant UPS features a fully programmable touchscreen display, providing complete access to operating parameters, system setup, and advanced diagnostics for technicians and service personnel.
This **100 kVA frame supports up to five hot-swappable 20 kVA** power modules, enabling flexible **N+1 or N+N redundancy** configurations for enhanced reliability and service continuity.
Designed for compact power and backup, the unit integrates **internal VRLA battery storage with 24 dedicated trays, each holding up to 10 batteries**—allowing accommodation of **up to 240 x 12V/9Ah batteries** within the same enclosure.
Each battery tray is individually hot-swappable, allowing safe maintenance or replacement without shutting down the system or interrupting load power.
Communication is streamlined with built-in RS-232, USB, and dry contact interfaces, and optional SNMP, parallel kits are available to scale the system as business demands grow.

UPS Uninterruptible Power Supply
Modular technology N+X;

Unity output power factory PF=1 **kVA=kW**;

Three level IGBT Technology;

Internal hot-swappable VRLA upto 240 pcs 12V/9Ah

7" Touch screen color display;

Input-Output 208/120V;

Ultra-high efficiency up to **96%**;

Hot-swappable power module 20kVA;

Multiple communications RS232+EPO+USB Standard;

Parallel up to 8 units.

Features

TIER 1 UPS
Highest efficiency

High-rate VRLA
Batteries

8A Charger for fast
recharge

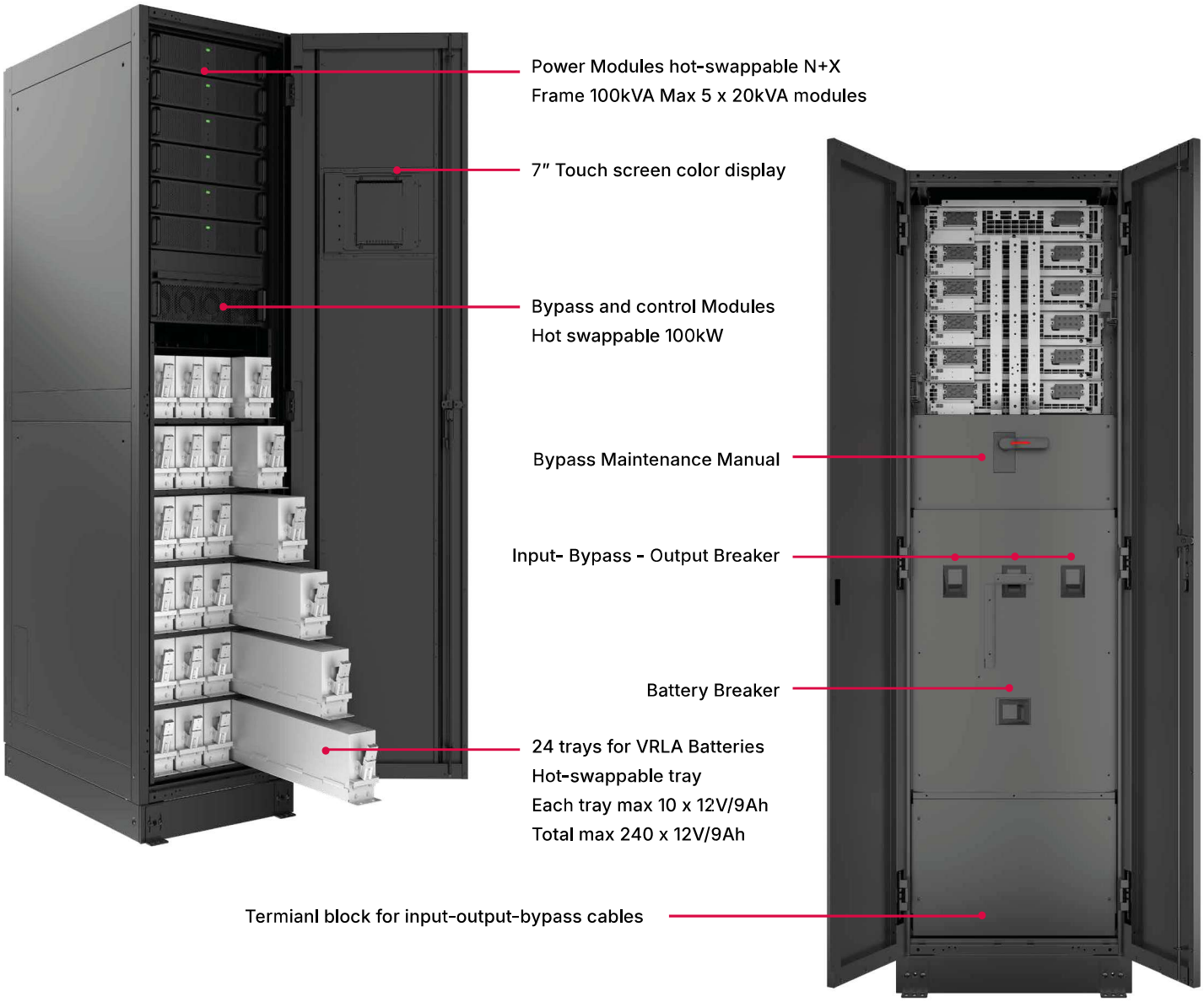
Scan the QR code to find out more informations on RADIANT-IB UPS!

UPS Modular technology N+X with internal batteries VRLA

Modular UPS technology transforms power protection by delivering unmatched scalability, flexibility, and ease of maintenance in a compact, high-performance system. In the **100 kVA Radiant UPS frame**, up to five independent 20 kVA power modules can be installed, each hot-swappable and fully operational without requiring system shutdown—unlike traditional fixed systems.

This architecture supports flexible redundancy configurations such as N+1 or N+N.
For example, a 60 kW load can be protected using four 20 kVA modules (N=3, X=1), allowing one module to act as a backup in case of failure or maintenance, ensuring uninterrupted operation.
Additionally, the system features 24 internal battery trays—each tray holding 10 VRLA batteries—providing space for **up to 240 hot-swappable 12V/9Ah batteries.**

Details



RADIANT-IB 20-100kVA

Touch screen Smart Display

Clear Display: A 7-inch color touchscreen provides an easy and intuitive way to control the UPS.

Secure Access: Three access levels (User, Technician, Manufacturer) protect system settings.

Full Configuration: Adjust input, output, battery, communication, language, and operating modes directly from the screen.

Live Monitoring: View real-time data like voltage, load, frequency, and battery status by cell at a glance.

Event History: The UPS logs up to 10,000 events, downloadable via the built-in USB port.

Generator Ready: Advanced settings ensure stable operation and communications with diesel generators.

Custom Alarms: Set and manage dry contact alarms right from the touchscreen.

Self-Cleaning: Automatic fan cycles help remove dust and keep internal parts clean.

Waveform Display: The system periodically records inverter, rectifier, and control waveforms for diagnostics.

7 inches Touch Screen

Three level IGBT technology

A 3-level IGBT inverter introduces an intermediate voltage state (0 V), yielding three discrete levels: +Vdc, 0 V, and –Vdc.

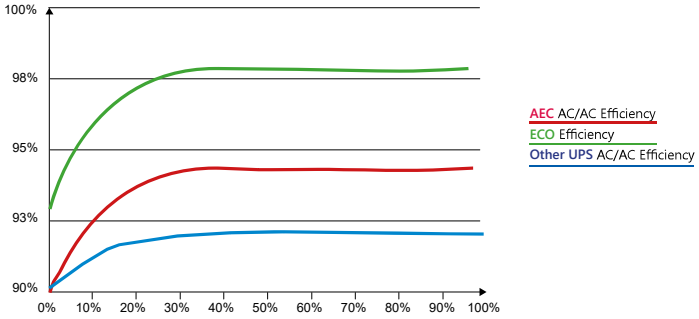
This small enhancement dramatically improves performance:

Cleaner waveform: The staircase-shaped output more closely resembles a sine wave, reducing THD and interference.

Lower Harmonic Distortion (THD): 3 level IGBT reduces THD compared to the 2-level's rough waveform, improving power quality and reducing harmonic pollution.

Lower switching stress: Smaller voltage transitions mean each IGBT experiences less stress and switching loss, allowing for the use of lower-voltage, faster devices.

Higher efficiency: With reduced losses, heat dissipation and improved waveform quality, efficiency jumps above 96%, especially in new demanding critical power applications.



Standards and certifications

Scan the QR code to download the User Manual RADIANT-IB 20-100kVA!

Technical specifications

MODELS	RAD100-IB-X
Input	
Voltage (VAC)	200/208/220VAC(L-L)
Frequency (HZ)	40~70Hz
Input range (VAC)	166-261Vac(L-L)@full load, 125-166Vac(L-L) power derate from 100% to 75%
Power factory	≥0.99
THDI	≤3%
Phase	3W+N+G
Output	
Power Module (kW)	20kVA
Frame capacity (kW)	100kVA (Max 5 Modules x 20kVA)
Power factor	1
Voltage (VAC)	200/208/220VAC(L-L)
Frequency (HZ)	50/60±0.1
THD	≤1%THD, linear load; ≤5%THD, non-linear load
Waveform	Pure sinewave
AC/AC Efficency	96%
Overload	110% 1 hour, 125%10 mins, 150% 1 min, >150% 200ms
Battery	
Voltage (VDC)	±120Vdc
Standard internal battery	Max 24 hot-swappable trays, each tray max 10 pcs 12V/9Ah, total 240 pcs 12V/9Ah
Max. current Charger (A)	20% * UPS maximum capacity
Other specifications	
Recharging time	< 6 Hours
Communications	Standard: RS232, E.P.O Contact and USB Port Optional: SNMP, Modbus, Dry contact
Noise (DB)	<50dB
Temperature (°F - °C)	0°C - 40°C 32°F - 104°F
Umidity	<95%
Dimensions (W*D*H) in	23.6*39.3*78.7 in
Dimensions (W*D*H) cm	60*100*200 cm
Frame Weight (Lb - Kg)	617 Lb - 280 Kg
Power Module (Lb - Kg)	50.7 Lb - 23 Kg
Certifications	
Standards	CE (IEC EN 62040-1; EMC IEC EN 62040-2; IEC EN 62040-3); UL1778

All information is for reference only, subject to change by AEC at any time, and does not constitute contractual obligations.

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