Endeavor 5-10kVA Rackmount Online UPS

ED5200RTXL / ED6200RTXL / ED8200RTXL / ED10200RTXL
ED5000RTXL / ED6000RTXL / ED8000RTXL / ED10000RTXL

Capacity

☐ Small ☑ Midsize ☑ Enterprise level

Applications

☑ Network/Server ☑ VoIP Systems ☑ IP/Analog Phone & Security

Protection For Mission-critical Applications

The Minuteman® Endeavor™ 5-10kVA Series UPS combines transient free pure sine wave output, extended runtime capability, and redundant or parallel configurations for critical applications. A front panel LCD display provides visual notification of the UPS status, including AC input status, battery status, and UPS fault indication.

Endeavor 5-10kVA Upgraded Features

- **User-friendly LCD Display**
  Minuteman's familiar LCD interface provides real-time status and control of the unit
- **Easy to order model numbers**
  Bundled systems suitable for most applications
- **Endeavor reliability, added options**
  Expands Endeavor product family to 10kVA in a rack/tower format; allows paralleled systems up to 20kVA in capacity
- **Output receptacle configurations on some models**
  All dual-voltage output models will have standard receptacle configurations
- **Versatile input: Standard**
  5/6kVA models include an L6-30P power cord standard

Ultra-Configurable Value for Large Systems

The Endeavor Series is available in a multitude of configuration options to ensure a proper system is available for most applications. In addition to multiple voltage configurations for each capacity level (ED(X)200RTXL models feature 208V in/out, ED(X)000RTXL models include 208V in and 120/208VAC out), additional accessories are available to further tailor the Endeavor to individual needs.

Available accessories include isolation stepdown transformers, external maintenance bypass switches (MTBS), and even combinations of these options to help users tailor the Endeavor to the needs of their specific system.

Parallel Installations Made Easy

Endeavor Series units can be paralleled for either capacity or redundancy, thanks to innovative internal hardware that detects load and automatically switches as needed.

With a single part number, the Endeavor can provide the base unit capacity (5, 6, 8, or 10kVA) as an N+1 redundant configuration, or automatically switch to parallel for capacity after surpassing 50% load. This occurs within the unit automatically, no action is required by the user.

Features & User Benefits

- **True double-conversion online technology:**
  Maximum protection for critical equipment
- **Digital Signal Processor (DSP) design**
  Higher reliability through reduced number of UPS components
- **Higher power factor (0.9pf)**
  Increases the real power capacity of each individual model
- **120/208V output models with standard receptacles**
  Flexibility to support multiple voltages used on connected loads

- **Real-time LCD status display**
  See power and unit status, estimated runtime, and more in real time
- **Parallelable to 20kVA (208V-only models)**
  Scalable capacity to grow with the customer's loads
- **240V input/output configuration optional**
  Units can be factory configured for 240V power for an additional charge
- **Automatic internal bypass**
  The UPS will sound an alarm and go to bypass mode when an internal fault, either hardware or battery, is detected
- **Independent Battery Bypass (IBB)**
  The unit will provide a constant 120/208V output, even with dead or defective batteries when utility power is present
- **Smart fan control**
  Variable speed fan control maximizes the cooling of the UPS while maintaining optimum efficiency
- **Cold start function**
  Start UPS even without utility power
- **Simultaneous communication options**
  RS-232 and optional SNMP communications provide greater flexibility in the management and monitoring of the UPS system
- **3-year standard product warranty**
  Lower cost of ownership and greater reliability
- **5-year extended warranty options available**
- **Platinum Protection Plan®**
  Insures properly connected equipment up to $200,000[1]
- **ENERGY STAR Certified**
  To maximize energy savings, all models meet EPA's ENERGY STAR efficiency standards
- **RoHS 2 compliant**
  European Union reduction of hazardous substances in electrical equipment: 2011/65/EU

Endeavor 5/6kVA 2U control unit, battery pack, and transformer (6U total height)

[1]*U.S. 48 & Canada only*

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Electrical Characteristics

Digital Signal Processor

- Reduced number of components in the UPS also reduces the potential for defects or malfunctions
- Digital Signal Processor (DSP) combines many components into a single processor, increasing the reliability of the UPS and reducing any downtime potential
- Helps ensure stable, quality power and long life span

High Output Power Factor

- All models feature an output power factor of 0.9 which increases the Watt capacity of the units
- Larger capacities in a smaller UPS VA rating can reduce the overall cost of the UPS solution for a specific load requirement

Output T.H.D.

- Endeavor units maintain an output AC signal within 2% of a true sine wave pattern (Total Harmonic Distortion)
- Prevents equipment damage from internal heat build up on sensitive connected equipment

Overload Capacity

- Sudden spikes can occur when supporting IT infrastructure, industrial equipment, security installations or any electrically-driven load
- Endeavor UPSs are designed to support such situations with the ability to absorb up to 150% of its rated load for up to 30 seconds
- Allows the UPS to be sized for maximum capacity without worry of overload and shutdown, providing cost-savings

Independent Battery Bypass

- An independent battery circuit allows the Endeavor UPS to operate in Normal Mode, even with weak, dead, or defective batteries
- Endeavor UPSs monitor internal battery status at regular intervals; if the UPS detects weak or bad batteries, it will engage an audio alarm and also any preconfigured electronic notifications
- Normal AC output will be maintained as long as utility power is supplied within the UPS' nominal input range
- The UPS will still provide a constant 120 or 208V output signal while allowing time to replace batteries without having to shut down connected equipment

Optional 240V Output

- Endeavor units can be factory configured for use with 240V input and output applications for an additional charge
- Include ED-240VAC with Endeavor 5-10 order for 240V configuration
- For more information about this option, please contact your Minuteman representative

Communications

Bundled with SentryHD™ software

- Minuteman SentryHD auto-shutdown and monitoring software is included - see below for more details

SNMP-compatible (with SNMP-NET and SNMP-NV6 cards)

- All models include a standard internal communication slot compatible with all current Minuteman SNMP cards
- Adding an SNMP-NET or SNMP-NV6 card allows remote management and control over any IP-based network
- The Option card slot and serial communications port can be operated simultaneously, allowing SNMP to be used in conjunction with Minuteman SentryHD software
- Using SNMP and SentryHD, users can enable high efficiency Economy Mode for increased energy savings

Battery Characteristics

Extended Runtime Capability

- **All models come bundled with a battery pack module**
- For protection through extended blackouts, the Endeavor Series can also utilize connections built into each battery pack to connect multiple units, providing virtually unlimited runtime capabilities

Models	ED5(X)00	ED6(X)00	ED8(X)00	ED10(X)00
External Battery Pack	BP192RTXL		BP240RTXL	
Rack Height	2U		3U	

External Battery Pack Chargers

- Optional 2U external battery pack charger lessens recharge times for applications requiring extended or extremely long runtimes
- While built-in chargers provide ample capacity to support multiple battery packs, external chargers can shorten the recharge time of the connected battery packs exponentially
- Critical for installation environments that experience frequent outages or long periodic outages

Battery Technology

- All Endeavor Series battery packs use valve-regulated lead-acid batteries (VRLA); safe for all freight transport

Hot-Swappable Batteries

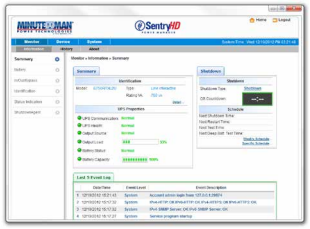
- Batteries in the Endeavor Series UPS can be replaced without the need to shut down the unit (requires removal from rack)
- Connected loads are protected from voltage anomalies and spikes and surges while the batteries are being replaced

New LCD Status Display

Endeavor Series UPS products now feature an informative LCD display. This display offers real-time feedback on the following areas:

- Input / Output Voltage and Frequency Display to monitor the status of your utility power
- UPS Battery Mode/Status Icons which eliminates guesswork with a straight-forward display of the UPS status
- Load Capacity Indicator displays how much of a connected load is being placed on the unit
- Numeric Estimated Runtime Display which is based on the connected load to indicate how much backup time remains during a blackout

SentryHD™ Software



Minuteman's SentryHD™ UPS monitoring and control software comes included with each Endeavor Series UPS unit. Users can monitor and control the UPS products on a connected network from one application session. Features include:

- Support for 32/64-bit operating systems
- Batch configuration capable
- SNMP (v1, v2c, v3) trap support
- Supports scheduled UPS shutdown, restart and battery testing
- User configurable e-mail and SMS alarm notices
- Supports both RS-232 and SNMP communication protocols

SentryHD POWER MANAGER

A Complete System - One Part Number

The complete listing of available configuration bundles is listed in the charts at right. Each of these bundles provides a complete system including the equipment noted in the description, making specification, ordering, and installation a simple, straightforward process. System components include:

UPS Control Unit (CU)

- System control unit featuring an LCD status display, connections for communications, battery packs, and other modules
- 2U (5/6kVA) or 3U (8/10kVA) rack height module

Battery Pack (BP)

- BP192RTXL (5/6kVA) or BP240RTXL (8/10kVA) external battery pack
- Each bundle includes single battery pack standard
- Multiple battery packs can be connected via daisy-chain capability for extreme runtime needs

External Maintenance Bypass Switch (MTBS)

- The MTBS is a separate module from the UPS that allows the unit to be taken offline without removing connected equipment from utility power
- Included as a bundle on "-MB" models or sold separately as an accessory; mountable to the rack (3U total height), to the UPS control unit, or to the wall
- If the UPS experiences an internal fault (battery or hardware-related), the user can bypass the UPS, providing utility power directly to connected equipment while the UPS is repaired
- Efficiently upgrade or expand connected equipment without having to bring down current infrastructure

Isolation Stepdown Transformer (XFR, 5TF)

- Independent module which can "step down" the 208V input voltage to 120VAC output voltage
- **Available in full UPS capacity (XFR) or 5kVA capacity (5TF)**
- All transformer modules come with various NEMA output receptacle configurations for greater flexibility on installation requirements
- Isolation hardware ideal for sensitive applications including audio/visual equipment, scientific, and other critical devices

208 In / 208 Out *(240V Optional - see page 2)*

Model No.	Input Voltage	Output Voltage	Rack Height	Bundle Contents (see desc. at left)
ED5200RTXL	208	208	4U	CU, BP
ED6200RTXL	208	208	4U	CU, BP
ED8200RTXL	208	208	6U	CU, BP
ED10200RTXL	208	208	6U	CU, BP
w/ Maintenance Bypass Switch (add 3U if rack mounting MTBS)				
ED5200RTXLMB	208	208	4U	CU, BP, MTBS
ED6200RTXLMB	208	208	4U	CU, BP, MTBS
ED8200RTXLMB	208	208	6U	CU, BP, MTBS
ED10200RTXLMB	208	208	6U	CU, BP, MTBS

208 In / 120/208 Out *(240V Optional - see page 2)*

Model No.	Input Voltage	Output Voltage	Rack Height	Bundle Contents (see desc. at left)
ED5000RTXL	208	120 / 208	6U	CU, BP, XFR
ED6000RTXL	208	120 / 208	6U	CU, BP, XFR
ED8000RTXL	208	120 / 208	9U	CU, BP, XFR
ED10000RTXL	208	120 / 208	9U	CU, BP, XFR
w/ Maintenance Bypass Switch (add 3U if rack mounting MTBS)				
ED5000RTXLMB	208	120 / 208	6U	CU, BP, XFR, MTBS
ED6000RTXLMB	208	120 / 208	6U	CU, BP, XFR, MTBS
ED8000RTXLMB	208	120 / 208	9U	CU, BP, XFR, MTBS
ED10000RTXLMB	208	120 / 208	9U	CU, BP, XFR, MTBS
w/ 5kVA Max Transformer (5TF) & MTBS (add 3U if rack mounting MTBS)				
ED8000RTXL5TF	208	120 / 208	8U	CU, BP, 5TF
ED10000RTXL5TF	208	120 / 208	8U	CU, BP, 5TF
ED8000RTXL5TFMB	208	120 / 208	8U	CU, BP, 5TF, MTBS
ED10000RTXL5TFMB	208	120 / 208	8U	CU, BP, 5TF, MTBS

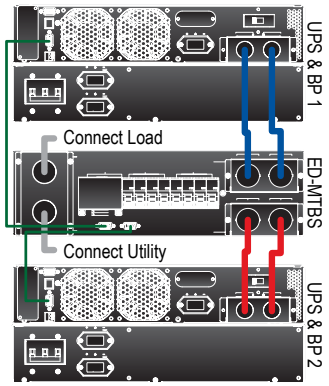
Installation Versatility

- All models can be installed as either rackmount or stand-alone tower
- A rail kit (below) for rackmount installations and foot brackets for stand-alone installations is also included standard
- Tower mount feet expand to allow additional modules (both transformers and battery modules) as needed for growth

Scalability Made Easy

- Easily expand as needed - purchase or expand 2 208V units for paralleled operation
- System will automatically: **(a)** Provide double the base unit capacity if connected load is more than 50% total capacity **(b)** Provide N+1 redundancy if connected load is less than 50% total capacity
- Parallel configurations can be easily ordered using a single part number; no extra hardware, cables, or other accessories are required

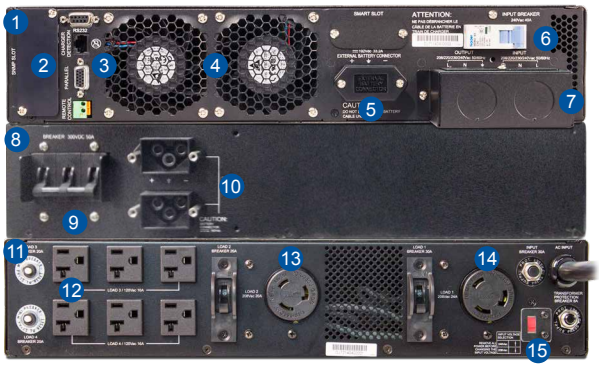
Parallel	ED10000RTXLP	ED12000RTXLP	ED16000RTXLP	ED20000RTXLP
VA/Watts	10000/9000	12000/10800	16000/14400	20000/18000
MTBS	✓	✓	✓	✓
Weight	368	369	491	492



5/6kVA 120/208V Output Rear View

All Endeavor bundles include a control unit (top), and battery pack (middle). All 120V output capable systems (ED(X)000RTXL) also include a transformer (bottom).

1. UPS Control Unit
2. SNMP Option Slot
3. Parallel RS-232 Connections
4. Cooling Fans
5. External Battery Connection
6. Input Circuit Breaker
7. Input/Output Connections
8. External Battery Pack
9. Battery Pack (DC) Circuit Breaker
10. Control Unit/BP Connections
11. Optional 120V Transformer
12. 120V NEMA 5-15/20R Output Receptacles
13. 208V L6-20R Output Receptacle
14. 208V L6-30R Output Receptacle
15. Input Voltage Selection (208/240V)



Minuteman® Endeavor 5-10kVA Online Rackmount UPS Specifications

	Model Number - 208V (240V Opt.) Output (120V Capable)	ED5200RTXL (ED5000RTXL)	ED6200RTXL (ED6000RTXL)	ED8200RTXL (ED8000RTXL)	ED10200RTXL (ED10000RTXL)
General	Maximum Power Capacity	5000VA / 4500W (4556VA / 4100W)	6000VA / 5400W (5556VA / 5000W)	8000VA / 7200W (6889VA / 6200W)	10000VA / 9000W (8889VA / 8000W)
	Topology	Double Conversion Online, True Sine Wave			
	Input Plug Type	Hardwire / L6-30P/pigtail cord included (Hardwire / L6-30P/pigtail cord included)		Hardwire Only (Hardwire Only)	
	Output Outlet Type	Hardwire Only (6 - NEMA 5-15/20R, 1 - L6-20R, 1-L6-30R)		Hardwire Only (8 - NEMA 5-15/20R, 1 - L6-20R, 1 - L6-30R)	
Input	Number of Phases	Single (1ф 2W + G)			
	Nominal Voltage	208 (240VAC factory configurable option)			
	Acceptable Input Voltage	0 - 300VAC			
	Voltage Range	156 - 280VAC		180 - 280VAC	
	Power Factor Correction	≥99% at Full Load			
	Frequency Limits	40 to 70Hz at Full Load			
	Low Voltage Transfer Point	156/180 resets to Utility Power at 166/190VAC or higher			
	High Voltage Transfer Point	280VAC resets to Utility Power at 270VAC or lower			
	Input Protection	Resettable Circuit Breaker			
Output: Online	Voltage Range	208VAC: 204 - 212VAC (240VAC: 235 - 245VAC)			
	Voltage Regulation	Nominal +/-2%			
	Frequency Range	50/60Hz, auto selecting, +/-00.1Hz (unless synchronized to utility)			
	Efficiency (Online Mode)	>90% (Full Load)			
Output: Battery	Waveform Type	True Sine Wave			
	Nominal Voltage	Default: 208VAC, User-selectable:220/230/240VAC			
	Voltage Regulation	Nominal +/-2% (until Low Battery warning)			
	Frequency	50/60Hz, +/-0.1Hz			
	Voltage T.H.D.	≤2% (Linear Load)			
	Dynamic Response	+/-5% @ 100% Load change in 30ms			
	Transfer Time	0 ms			
	Slew Rate	≤1Hz / second			
	Crest Factor	3 : 1		2.7 : 1	
	Overload Capacity	≥106% - ≤110% for 10 minutes / ≥111% - ≤125% for 5 minutes / ≥126% - ≤150% for 30 seconds			
Battery	System Voltage	192VDC		240VDC	
	Runtime: Full Load (minutes)	4	3	5	4
	Runtime: Half Load (minutes)	12	11	13	12
Surge Protection	Surge Energy Rating	1050J			
	Surge Current Capability	6500 Amps total			
	Surge Response Time	1.2µs normal mode; <50µs common mode			
	Surge voltage let-through (as a percentage of an applied ANSI C62.41 Cat. B +/-4kV)	<10%			
	Noise Filter	normal and common mode EMI/RFI suppression			
	Audible Noise at 1m (3 ft.)	<60dBA			
Environmental	Operating Temperature (max)	0 to +40°C (+32 to +104°F)			
	Storage Temperature	-15 to +50°C (+5 to +122°F)			
	Operating/Storage Humidity	0 ~ 95% Non-Condensing			
	Operating Elevation	0 to 2,000m (0 to +6,562 ft.)			
	Storage Elevation	0 to 15,000m (0 to +49,213 ft.)			
Physical	Size - Net - LxWxH	26.0 x 17.3 x 7.0" / 660.0 x 440.0 x 177.5 mm (26.2" x 17.3" x 10.5" / 665.0 x 440.0 x 266.0 mm)		24.6 x 17.3 x 10.28" / 625 x 440 x 261.2 mm (25.9" x 17.3" x 15.4" / 659.0 x 440.0 x 391.8 mm)	
	Weight - Net	115.8 lbs. / 52.5 Kgs. (198.5 lbs. / 88.0 Kgs.)		181.0 lbs. / 82.1 Kgs. (339.7 lbs. / 154.1 Kgs.)	
Regulatory	Safety and Approvals	cTUVus (Conforms to UL1778 4th Edition & CSA 22.2 no. 107.3-05), RoHS 2 , ENERGY STAR			
	EMC Verification	FCC Class B, CE Certified			
	Warranty • Platinum Protection	Three-years parts, labor, and battery (non-prorated); 5-year extended plans available • $200,000			

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PN-34000487 - 08-14