

**ED6200RM - 6000VA/4200Watts UPS**  
**ED6000RMXFMR - Transformer Module**  
**EDBP6000RM - Battery Pack Module**



#### **MINUTEMAN® 6kVA ON-LINE RACKMOUNT/TOWER UPS.**

- Simple parallel installations (no extra PCB required)
- Full digital signal processor
  - Easy-to-set user personalization
  - Intelligent self diagnosis
  - Smart fan control
- Emergency Power Off (EPO) function
- True double conversion on-line technology
- High input Power Factor and low voltage THD
- Energy efficient UPS
- LCD/LED panel
- 2X customer options slots
- Smart ECO
- i-Batt (automatically manages end of discharge voltage according to load capacity)
- Cold start function
- Communication capability
  - Remotely test the major operating functions of UPS
  - Communicate via SNMP/Web card
  - Access UPS via the Internet

#### **APPLICATIONS**

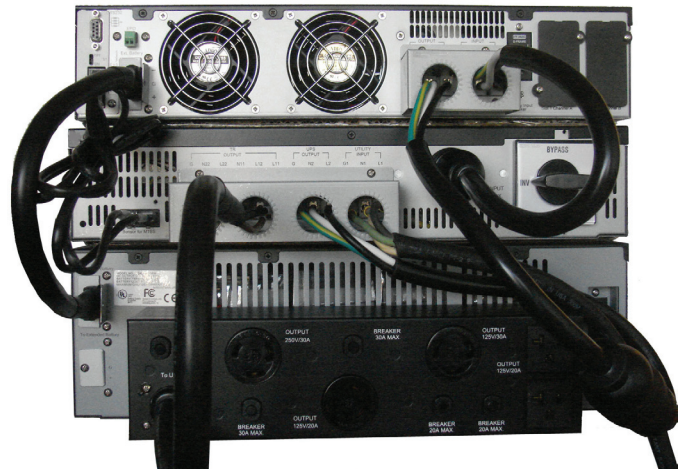
- VoIP
- Data centers
- Server racks
- Large network switches
- Total rack tower support
- Large PBX systems

#### **6kVA ON-LINE UPS FEATURES**

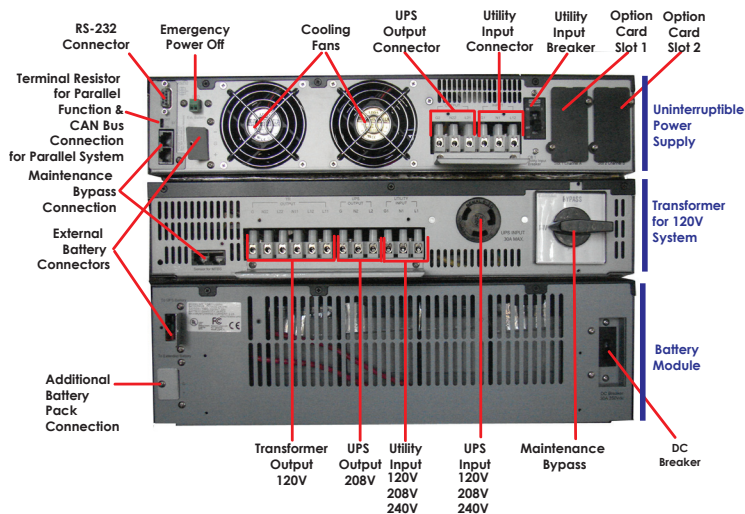
- True on-line architecture supplies critical device with transient-free pure sine wave AC power
- LCD/LED front panel displays status of UPS
- Switches to bypass automatically in case of overloading at 150%
- Maintenance free sealed-type battery minimizes after-sales service
- Intelligent, temperature-controlled
- **Can be configured as tower or rackmount**

#### **OPTIONS**

- Maintenance bypass
- Galvanic isolated transformer



## ENDEAVOR 6kVA TRUE ON-LINE RACKMOUNT/TOWER UPS



### MAIN CONTROL MODULE - ED6200RM

The Main Control module takes only 2U in rack height and provides 208/240V input and output. Input is hardwired to the unit. The main control module has a LCD/LED display. Each control module must have at least one battery back (EDBP6000RM). Parallel functions are available for up to 208V 24kVA. N+1 full-redundancy function is available up to 18kVA for 208/240V applications and 6kVA for 120V applications. Optional receptacle boxes are available for 6kVA units.

### TRANSFORMER MODULE - ED6000RMXFMR

The transformer module steps down the 208/240V input to 120/208/240V output, takes 2U in rack height, and requires a control module (ED6200RM), and Battery Pack (EDBP6000RM) to work. It has an internal bypass switch for single 6kVA installations (Not available on parallel installations). It handles 208/240V input and 120/208/240V output.

### BATTERY PACK MODULE - EDBP6000RM

Each battery pack module (EDBP6000RM) occupies 3U in rack height and requires a control module (ED6200RM) to operate. Multiple battery packs can be daisy chained. Only one receptacle box can be attached to a battery pack module. Battery packs are charged through the main UPS.

### PARALLEL CONFIGURATIONS

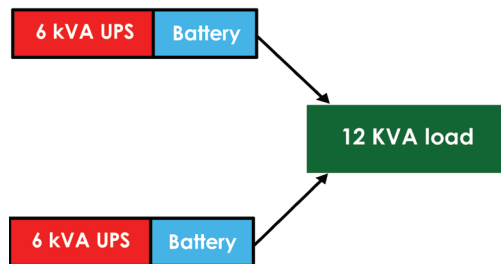
In addition to a stand-alone configuration, the Endeavor 6kVA rackmount UPS can be configured as:

- **Parallel for capacity** (12, 18 and 24kVA output load)
- **Redundancy (N+1)** (6, 12, and 18kVA). This allows all of the load to be shifted to the other UPS units when one is taken offline. Configurations using more than two control modules will require a parallel kit and an external maintenance bypass switch.

**NOTE:** 120V output from the Endeavor 6kVA rackmount UPS is available only in a 6kVA stand-alone configuration or a Parallel for Redundancy (N+1) 6kVA 208V/240V input and 6kVA 120V output made up of two ED6200RM control units, two EDBP6000RM battery packs and two ED6000RMXFMR transformers.

### PARALLEL FOR CAPACITY CONFIGURATIONS

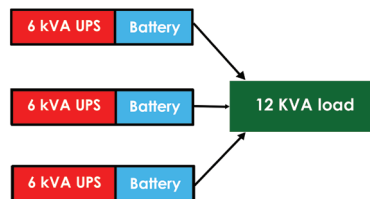
This configuration uses mirrored Endeavor 6kVA rackmount UPS system to achieve higher than 6kVA loads. Currently, parallel capacity configurations can be used to accommodate output loads of 12, 18, and 24kVA for 208V/240V systems.



| Parallel for Capacity Configuration Table |                    |                    |                    |
|---|--------------------|--------------------|--------------------|
| Model                                     | ED12000RM          | ED18000RM          | ED24000RM          |
| Input                                     | 12kVA<br>208V/240V | 18kVA<br>208V/240V | 24kVA<br>208V/240V |
| Output Load                               | 12kVA<br>208V/240V | 18kVA<br>208V/240V | 24kVA<br>208V/240V |
| Watts                                     | 8400               | 12600              | 16800              |
| Rack height                               | 10 U               | 15 U               | 20 U               |
| ED6200RM                                  | 2                  | 3                  | 4                  |
| EDBP6000RM Battery Pack                   | 2                  | 3                  | 4                  |
| ED6-PARALLEL Parallel kit                 | 1                  | 1                  | 1                  |
| External Maintenance Bypass Switch        | 1<br>ED6-MTBS2     | 1<br>ED6-MTBS4     | 1<br>ED6-MTBS4     |

### REDUNDANCY (N+1) CONFIGURATIONS

This configuration is used to provide redundancy backup. When one UPS is taken offline, this configuration allows the load to be redistributed to the remaining UPS units.



| Redundancy (N+1) Configuration Table |                   |                   |                    |                    |
|--------------------------------------|-------------------|-------------------|--------------------|--------------------|
| Model                                | TBA               | ED12000RM         | ED18000RM          | ED24000RM          |
| Input                                | 6kVA<br>208V/240V | 6kVA<br>208V/240V | 12kVA<br>208V/240V | 18kVA<br>208V/240V |
| Output Load                          | 6kVA<br>120V      | 6kVA<br>208V/240V | 12kVA<br>208V/240V | 18kVA<br>208V/240V |
| Watts                                | 4200              | 4200              | 8400               | 12600              |
| Rack height                          | 14 U              | 10 U              | 15 U               | 20 U               |
| ED6200RM                             | 2                 | 2                 | 3                  | 4                  |
| EDBP6000RM Battery Pack              | 2                 | 2                 | 3                  | 4                  |
| ED6000RMXFMR                         | 2                 | n/a               | n/a                | n/a                |
| ED6-PARALLEL Parallel kit            | 1                 | 1                 | 1                  | 1                  |
| External Maintenance Bypass Switch   | N/A               | 1<br>ED6-MTBS2    | 1<br>ED6-MTBS4     | 1<br>ED6-MTBS4     |

## OPTIONAL RECEPTACLE BOXES

Two receptacle boxes are available. One for 208V/240V output only (ED6-208RB) and one for both 120V and 208V/240V output (ED6-120RB).

### 208V-Only Receptacle Box - ED6-208RB

Receptacles: (1) L6-30R, (1) L6-20R and (4) 6-15/20R. Only one receptacle box can be connected to a battery pack.



### 120V/208V Receptacle Box - ED6-120RB

Receptacles: (1) L6-30R, (1) L5-30R, (1) L5-20R and (2) 5-15/20R. Only one receptacle box can be connected to a battery pack.



## COMMUNICATION AND SOFTWARE

The Endeavor 6kVA UPS currently uses the NetAgent SNMP card and includes software for monitoring the UPS. A new version of the ED6200RM with SentryPlus/SNMP-NET communications capability will be available in 2008.

Both versions are compatible with Minuteman's new SentryGold Enterprise Software which permits the monitoring and control of Minuteman UPS and Power Distribution Units.

## BATTERIES

The Endeavor 6kVA UPS uses a battery pack (EDBP6000RM) that contains sealed, non-spillable, maintenance free, value regulated, lead acid batteries. The UPS module does not have internal batteries. Typical recharge time for the battery pack is 8 hours from total discharge.

The battery pack contains (20) 12V 7.2Ah batteries.

Runtime at full load is 9 minutes. At half load the runtime is 23 minutes

## WHAT THE FUTURE HOLDS . . .

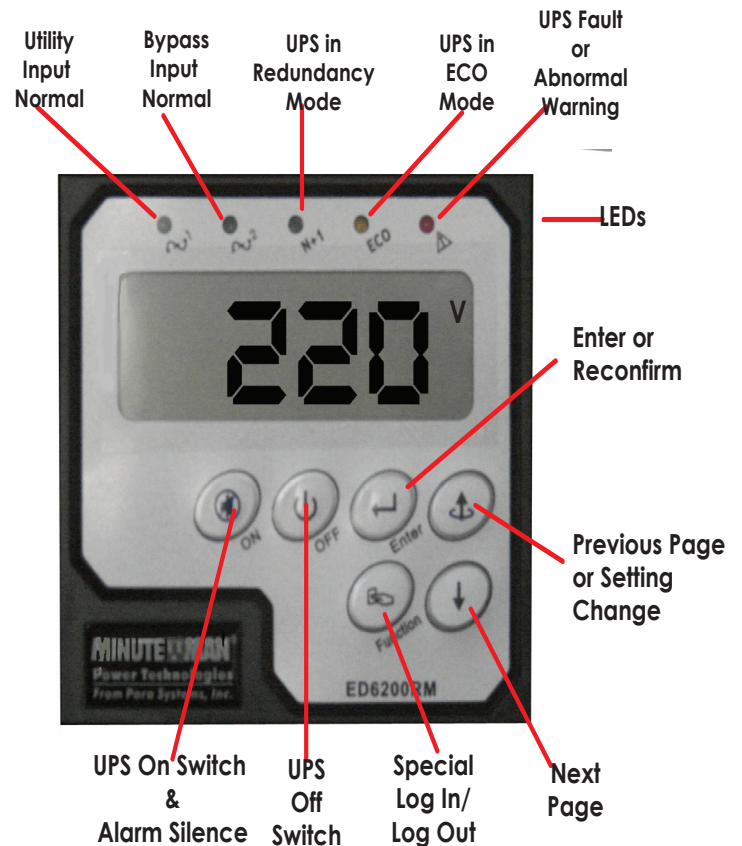
**Parallel Configurations:** All current 6kVA products are compliant with parallel configurations when these options are available. In the relatively near future you will be able to configure your Minuteman Endeavor 6kVA into a parallel configuration increasing system capacity up to 24kVA.

- Input and output will be hardwired
- A parallel kit will be required. It will contain all the required RJ-45 cabling and an instruction manual
- It is required that a maintenance bypass switch be installed

## ENDEAVOR 6kVA UPS LED/LCD FRONT PANEL DISPLAY/CONTROL

The Endeavor 6kVA UPS multi-functional LCD/LED panel will display various states of the UPS. The LED display will show the UPS working status, Utility Status and UPS Abnormal status. The LCD display will show the Input/Output voltage, frequency, load status, internal temperature, and faults.

Configuring the UPS parameters are done through the LCD.



## MAINTENANCE BYPASS SWITCH



Maintenance Bypass Switch with covers off

The maintenance bypass switch removes the requirement to power down the UPS to perform routine maintenance, replace batteries or to change battery configuration. The maintenance bypass switch is usually mounted adjacent to the UPS, enabling the UPS to be isolated from the load without interrupting power to essential applications.

## OPTIONS

- Maintenance bypass switch
- Galvanic isolated transformer for 120V applications.
- Parallel kit



# Endeavor® 6kVA Series On-line Rackmount UPS

|   |  |
|---|--|
| <b>Model</b>  | <b>ED6200RM</b>  |
| <b>Topology</b>                                       | Double Conversion On-Line, True Sine Wave  |
| <b>Maximum power capacity</b>                         | 6000VA/4200Watts   |
| <b>INPUT</b>  |  |
| Voltage window  | 160~280VAC*  |
| Frequency   | 50/60 Hz $\pm$ 5Hz autosensing   |
| Number of phases • Surge energy rating                | Single (1Ø 2W +G) • 1050J  |
| Power factor correction                               | $\geq$ 98% at 100% Linear Load   |
| <b>OUTPUT</b>   |  |
| Voltage window  | 200/208/240VAC selectable 120V with transformer  |
| Voltage adjustment / Voltage regulation               | 0%; $\pm$ 1%; $\pm$ 2%; $\pm$ 3% / $\pm$ 2%  |
| Capacity  | 6000VA/4200W   |
| Rated power factor                                    | 0.7 Lagging  |
| Wave form   | Sine Wave  |
| Frequency Regulation                                  | $\pm$ 0.2%(Free Running) unless synchronized to utility  |
| Transfer time   | 0ms  |
| Efficiency  | > 87% line mode  |
| Autonomy full/half                                    | 9 min/23 min   |
| Voltage THD   | <3% at 100% Linear Load  |
| <b>BATTERY</b>  |  |
| Type  | Sealed non-spillable lead acid maintenance free 12V/7.2Ah  |
| Quantity / Voltage / Recharge Time                    | 20pcs / 240VDC / 8 hours to 90%  |
| <b>DISPLAY</b>  |  |
| Status On LED + LCD                                   | Line mode, backup mode, ECO mode, bypass, battery low, battery bad/disconnect, overload, and transferring with interruption & UPS fault. |
| Readings on LCD                                       | Input voltage, input frequency, output voltage, output frequency, load percentage, battery voltage & internal temperature.               |
| Self-diagnostics                                      | Upon power-on, front panel setting & software control  |
| <b>ALARMS</b>   |  |
| Audible and Visual                                    | Line failure, battery low, transfer to bypass, system fault conditions   |
| <b>PHYSICAL</b>                                       |  |
| Dimensions- WxDxH- in (mm)                            | 17.3x3.4x26.7in (440x88x680mm) - (UPS Module)  |
| Input/output connection / External battery connection | Hardwired / Plug and Play  |
| Net weight(kg)  | 53.0 lb/ 24kg(UPS Module)  |
| Battery pack net weight                               | 120.0 lb (54.2 kg)   |
| Battery Bank Dimensions                               | Convertible(Rack/Tower) / 17.3x5.2x26.7in (440x132x680mm) (3U)   |
| Isolation transformer dimensions/ Net weight          | 17.3x3.4x 26.7in (440x88x680mm) - (2U) / 93 lb (42 kg)   |
| <b>ENVIRONMENT</b>                                    |  |
| Operating temperature                                 | 32°F to 104°F (0°C to 40°C)  |
| Altitude / Humidity                                   | 0~2000m up to 104°F (40°C), 3000m up to 95°F (35°C)<br>/ 90% RH Maximum, Non-Condensing  |
| Noise   | <50dB (at 1 meter)   |
| <b>COMPUTER INTERFACE</b>                             |  |
| Interface type  | Standard RS-232 Interface  |
| Communication slots                                   | 2 <sup>nd</sup> RS-232 **, USB *** Relay Contact, SNMP/WEB Card, etc.  |
| <b>SAFETY CONFORMANCE</b>                             |  |
| Safety and approvals                                  | UL 1778, cUL (CSA 2.2 no. 107.1), CE (EN62040-1-1)   |
| EMC   | CE (EN62040-2, EN61000-3-2, EN61000-3-3), FCC Class A  |

## Para Systems, Inc./Minuteman UPS

1455 LeMay Drive, Carrollton, TX 75007 U.S.A.  
Phone 800.238.7272 +1 972.446.7363 Fax +1 972.446.9011



© Copyright 2008, Para Systems, Inc. Product specifications are subject to change without notice. Minuteman is a registered trademark of Para Systems, Inc.



[www.minutemanups.com](http://www.minutemanups.com) • [www.sizemyups.com](http://www.sizemyups.com) • [www.sizemypdu.com](http://www.sizemypdu.com) • [www.comparemyups.com](http://www.comparemyups.com)

PN-34000314 - 4-2008