

Pulsar EX RT

2200/3200 VA

True ON-LINE double-conversion technology

in a versatile form factor to deliver pure digital

quality power protection for the networked

computing infrastructure



Digital Quality Technology

- ▶ True ON-LINE double-conversion technology, required for all mission critical networked applications and server environments
- ▶ Continuous voltage & frequency regulation – *Always On, Always Available*
- ▶ Complete compatibility with generators and fuel cell technologies

High Availability

- ▶ High input voltage tolerance provides a wide protection coverage window, saving battery protection for major power problems
- ▶ Automatic by-pass system in case of overload or default
- ▶ Hot-swappable batteries
- ▶ Complete network integration software and communication connectivity

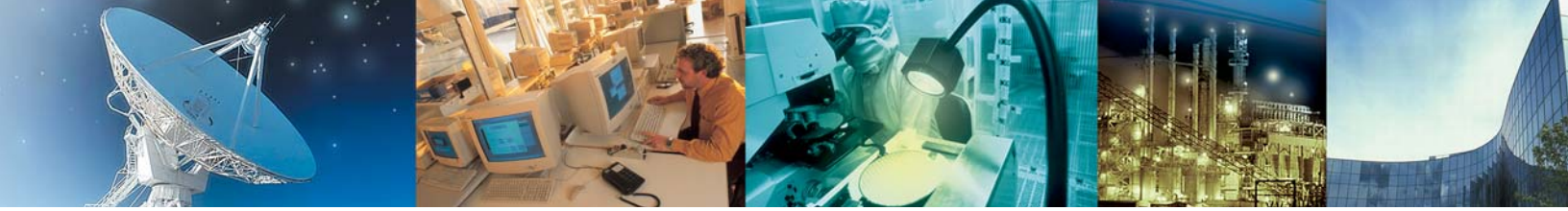
Mission Critical Applications for:

- ▶ Web/Email servers and Applications servers
- ▶ Network equipment (Hubs, Switches, Routers)
- ▶ Convergence IP-based technology (VoIP, VPN, Firewall)
- ▶ Storage environments (NAS/SAN), Mainframe/Distributed
- ▶ Telecom equipment
- ▶ Vital Health/Medical equipment
- ▶ Sensitive electronic equipment in industrial environments



ON-LINE
double conversion

MGE
UPS SYSTEMS



EX RT~ Digital Quality Power Technology

The MGE Pulsar EX RT family was designed with the same on-line double-conversion technology that protects over 95% of the Fortune 100 companies. MGE has been at the foundation of your facilities and datacenters protection. Now MGE offers the core networked computing environment the same technology in a high-density, footprint optimized UPS for critical business applications in sensitive computing environments.

True On-line Double-Conversion Technology

This technology guarantees a consistently high level of power quality. Whatever the disturbances on the distribution system, the waveform is regenerated by the UPS to produce a noise-free sine wave output. This pure digital quality power protection technology is always on and always providing the best-of-breed Quality-of-Service (QoS) required by sensitive equipment. This on-line UPS stands between the critical load and the utility at all times regulating power, while other UPSs may only supply battery power in the event of a power failure.

High-Performance Battery Charger

The Pulsar EX RT battery charger:

- ▶ Reduces battery recharge time (90% backup time recovered in less than 3 hours) and maximizes battery life
- ▶ Increases the service life of the battery by taking into account manufacturer parameters, ambient temperature and battery aging
- ▶ Protects the battery against damage caused by deep discharge

Advance Planning for the recovery of servers and networks, and the importance of safeguarding data assets required for business continuity is dependent upon the on-line double-conversion UPS topology offered by the Pulsar EX RT.

The Digital Quality Power of an on-line system protects the load from transients that may be generated by the power switching process itself.

Wide Input Voltage Range

This technology makes the Pulsar EX RT unique in the market as end-users can adjust the input voltage window to reduce the number of transfers to battery power while maintaining constant output voltage. This maximizes the battery power available for serious power problems and extends battery life.

High Availability

Cold start on battery power

Enables the UPS to start without utility power if required, allowing the connected equipment to maintain operation in the event of an emergency.

Automatic Bypass

The bypass capability serves as a protective device. In the event of an overload or UPS fault, the Pulsar EX RT automatically transfers the connected equipment to utility AC power source or backup generator.



Hot-Swappable Batteries

The Pulsar EX RT lets you service the UPS module and replace batteries without interrupting the supply of power to your applications. Thus the hot-swap capability delivers ease-of-use and maintainability.

Ease-of-Use

The Pulsar EX RT is designed with a comprehensive front panel user interface to assist IT managers in monitoring, controlling, and regulating the protected computing environment. The built-in intelligence of the Pulsar EX RT provides automatic extended-battery (EXB) recognition and the adjustable periodic automatic battery test, without risk to the load, cutting down on troubleshooting uncertainties. Included in the UPS intelligence is the battery life monitoring system, which after 4 years of continuous UPS operation, performs automatic notifications to IT managers for battery replacement cycles. This feature allows for advance disaster recovery (DR) planning of all networked computing environments.

High Reliability and Enhanced Feature Sets

The Pulsar EX RT family provides Powershare™ outlet capabilities to save time and money by allowing end-users to utilize remote management of connected equipment. IT managers can restart locked equipment by remotely switching ON/OFF individual Powershare™ outlets on the UPS.

Frequency Converter

- ▶ Dual capability allows UPS to function as a true frequency converter
- ▶ Automatic detection 50/60Hz
- ▶ No power derating
- ▶ No time limitations in frequency conversion mode

Mission Critical Applications

The Pulsar EX RT on-line double-conversion technology

is a requirement for the optimum protection of today's sensitive equipment environments. The increase in susceptibility to power irregularities coupled with the advancement in high-density blade servers, IP-centric converged infrastructures, and server virtualizations requires a seamless power protection schema to guarantee the best-of-breed in QoS ratings.

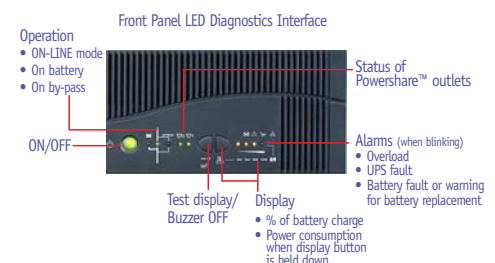
The Pulsar EX RT is ideal for the storage server environments which require Digital Quality Power as companies are increasingly deploying large-scale, multi-server-attachment storage, disk arrays, network-attached storage (NAS) appliances, or storage area network (SANs) to serve as centralized repositories for corporate data.

High-speed interconnects such as SCSI, Fibre Channel, or even Gigabit Ethernet network applications require a constant stream of communications and are susceptible to any power abnormalities. For these network and telecom applications, there is no substitute for the Digital Quality Power you get from on-line double-conversion technology.

Health and Hospital Medical Devices

are among the most sensitive of connected equipment with safe and manageable power protection requirements. Patient monitoring devices, test equipment, and life-saving electrical tools in hospitals are reliant upon and value the peace-of-mind delivered by on-line UPS technology.

Today's industrial and manufacturing applications are packed with more computer-centric integrated components to improve efficiencies and productivity. With these advancements come the prerequisites for sturdy and robust features such as the wide input voltage tolerance, Remote Power Off (RPO), and automatic bypass capabilities of the Pulsar EX RT. In certain environments, the RPO also serves within regulatory compliance as an Emergency Power Off feature.





EX RT~ high density network integration for long runtimes



Rack 2U/Tower versatile
(2200RT and 3200RT)



Network Integration

- ▶ SNMP+ Web monitoring
- ▶ NMS integration: HP OpenView, IBM Tivoli Netview, CA Unicenter®...
- ▶ Multiple server shutdown (Solution-Pac software suite supplied as standard)
- ▶ Remote reboot of locked equipment through individually switchable outlets (Powershare™)
- ▶ The extended backup time of the Pulsar EX RT allows end-users to shut down non-critical equipment when on battery to provide maximum runtime for the equipment designated in the critical equipment category. Powershare™ ensures the safe restart of the computer systems by allowing IT managers to control sequential equipment startups. This provides a protective measure to avoid overload from simultaneously starting multiple devices.



- ▶ Communications via a remote display controller adds mobility for the IT manager

Easy Integration

- ▶ Available in versatile 2U Rack/Tower form factor
- ▶ Comprehensive rack-mounting kit included with all models
- ▶ Software suite included (for Windows, Linux, Solaris, HP-UX, AIX, MacOS, Netware)
- ▶ Connection accessories

High Density

- ▶ 2U form factor up to 3kVA
- ▶ Optional EXB Battery extension cabinets in 2U form factor

Solutions for Long Runtime

- ▶ 2kVA-3+ hours with the addition of 4 EXB battery cabinets
- ▶ Fuel cell powerplant option
- ▶ Increased runtime for critical applications: load shedding on programmable outlets (Powershare™)

Easy integration in high-density enclosures.

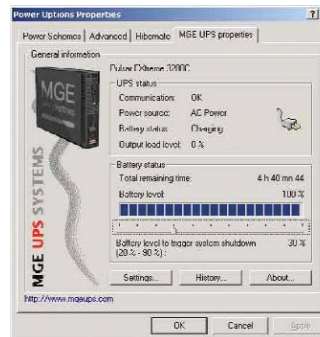
Software unrivaled anywhere in the industry.

EX RT~ enterprise level power management and NMS integration packages

Power Management

- ▶ **Solution-Pac software suite on CD, included with all UPSs**
For server protection and local or remote UPS management
- ▶ **Network management card***
For Ethernet 10/100 network connection, SNMP alerts, and Web-based monitoring
- ▶ **Environment Sensor for SNMP/Web card***
SNMP and Web monitoring of Temperature + Humidity + Status of 2 contacts
- ▶ **Management-Pac 2 software suite on CD***
NMS integration kit : HP OpenView, IBM Tivoli Netview, CA Unicenter®...
- ▶ **Status information card***
For UPS monitoring through voltage-free contacts + remote power-off function
- ▶ **UPS Control LCD display***
Remote display (up to 25m) of UPS interface and measures

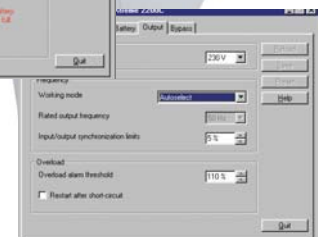
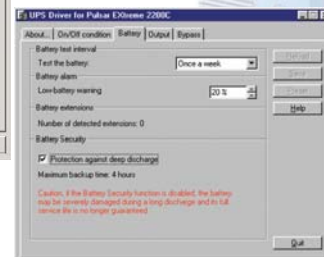
*Optional features



UPS Driver software

- ▶ **What is the software for?**
 - ◆ Customize advanced settings of the UPS
- ▶ **Where to find it?**
 - ◆ Solution-Pac version GH CD supplied in the package
 - ◆ On the MGE web site, download section:

<http://www.mgeups.com/download/soft/embedded/embedded.htm>



EX RT Specifications

2200RT

3200RT

Performances

Power rating VA/W	2200 VA/1540	3200 VA/2080
Technology	ON-LINE double conversion with automatic by-pass	
Input voltage window AC (VAC)	60V/70V/80V to 134V- 60V/70V/80V to 142V	
Frequency	50/60 Hz , auto-select, input frequency 40-70 Hz, frequency converter	
Output Voltage/Frequency	120V adjustable to 100V/120V/ 127V, 50/60 Hz +/- 0.5 %	
Overload capacity	>110% <130% : 12s then on by-pass, >130% : 1.5s then on by-pass	
Battery test	Automatic battery test once a week (adjustable periodically through UPS-Driver software supplied).	
Battery management	EXB auto recognition, automatic runtime adjustment , protection against deep discharge	
Typical runtime at load	50% / 100%	50% / 100%
Pulsar EX RT	17 min / 8 min	15 min / 6 min
Pulsar EX RT+ 1 EXB	85 min / 35 min	60 min / 24 min
Pulsar EX RT+ 4 EXB	290 min / 135 min	190 min / 80 min

Input/output connection

Input	L5-20P	L5-30P
Output	4 x Nema 15-20A and 1 x Nema L5-20R output receptacle cord (bottom two are Powershare™)	4 x Nema 15- 20A and 1 x Nema L5-30R output receptacle cord (bottom two are Powershare™)

Power management

Port standard	1 USB port + 1 Serial port
Available slot	1 slot for SNMP/Web Minislot card (Part No. 66244), status information card (Part No. 66246) or Environment sensor for SNMP/Web card (Part No. 66846)
Remote Power Off	Option with status information card #66246

Standards

Approvals	UL, CSA UL, IEC 61000-3-2, FCC 47 CFR part 15, Class A
Performance and safety	UL 1778/cUL, IEC/EN 62040-3, CSA 22.2 N° 107.1

Dimensions (H x W x D in inches)/Weight (in lbs.)

Rack UPS	EX RT 2200 – 3.46 x 19 x 25.8	EX RT 3200 – 3.46 x 19 x 25.8
EXB	EX RT 3200 – 3.46 x 19 x 24.9	EX RT 3200 – 3.46 x 19 x 24.9
Rack weight	EX RT 2200 – 80.8 lbs.	EX RT 3200 – 82.7 lbs.
EXB weight	92.8 lbs.	

Warranty (US & Canada)

Parts and labor	2 years, including batteries
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EX RT Part Numbers

	2200RT	3200RT
Rack 2U/Tower Versatile design	85220	85320
EXB battery extension	85000	85000

EX RT 2200RT and 3200RT
 Rack 2U/Tower packaging
 Rack 2U/Tower versatile
 EXBs for both models



MGE UPS SYSTEMS

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EXRT 100
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