

Pulsar ESV+

480-2200 VA

Power Protection for Network Equipment



MGE UPS SYSTEMS' new sleek Pulsar ESV+ series have been designed to **maximize the availability of Enterprise networks.**

Their line-interactive design provides voltage regulation during high and low voltage conditions for optimum network device performance without battery depletion.

Pulsar ESV+ is the perfect choice for departmental and enterprise servers or rack-mounted network equipment like routers, switches or hubs.

Form factor versatility, optional **direct network connection**, extended back-up time and environment monitoring modules provide flexibility now and into the future for maximum uptime of your critical network equipment.


Advanced Features (most models):

- ▶ Free-standing or rack-mounted models
- ▶ Direct Ethernet connection option
- ▶ Individual receptacle control
- ▶ TCP/IP-based power management software
- ▶ Line-interactive technology
- ▶ Smart battery management
- ▶ Sine wave output
- ▶ User-replaceable batteries
- ▶ Optional extended battery

M G E
UPS SYSTEMS

Increased Network Uptime

Solid Technical Features You Can Rely On

Features	Benefits
▶ Line-interactive technology	Provides output voltage regulation during high or low voltage events without battery discharge
▶ Smart battery management	The built-in microprocessor optimizes the charging sequence to prolong battery life
▶ Front access, user replaceable, hot-swappable batteries 	Faulty batteries can be replaced without interrupting power to critical devices
▶ Sine wave output	Total compatibility with sensitive power supplies
▶ Extended back-up time (ESV 22+ non-rack unit only)	Provides up to 7 hours of battery runtime for Internet servers by adding hot-swappable battery modules to the UPS



For Any Network Application

Whatever your need is, there is an ESV+ for you, in two convenient form factors, Tower or Rack-mount

- ▶ **Pulsar ESV 8+ (780 VA)**
For multiple internetworking devices
- ▶ **Pulsar ESV 11+ (1080 VA)**
For workgroup servers
- ▶ **Pulsar ESV 14+ (1400 VA)**
For departmental server
- ▶ **Pulsar ESV 22+ (2200 VA)**
For up to 4 servers

Router Protection Made Easy. . .

Pulsar ESV 5+ (480VA)



protects & controls 2 internetworking devices independently through its remotely manageable outlets over the network using TCP/IP or SNMP.

It's the most compact, sleek and light weight UPS of its kind and it can be rack-mounted as well. And is only 9 lbs!

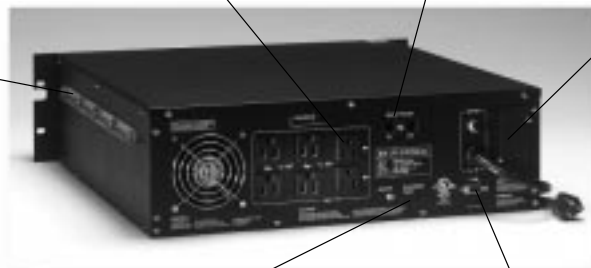
Convenient Installation



Integrated handles make it easy to slide UPS out of any enclosure



Included universal rail system lets you install the UPS in any enclosure



Guides for mounting rails

Independent, remote-controlled switchable outlets

Network line filtering protects Ethernet or Token Ring lines against damaging spikes



Expansion slot for optional communication cards. Choose between:
▶ Ethernet/SNMP
▶ Contact closure card

Site wiring fault indicator warns you of improper building wiring

Smart communication port to interface with Solution-Pac power management software

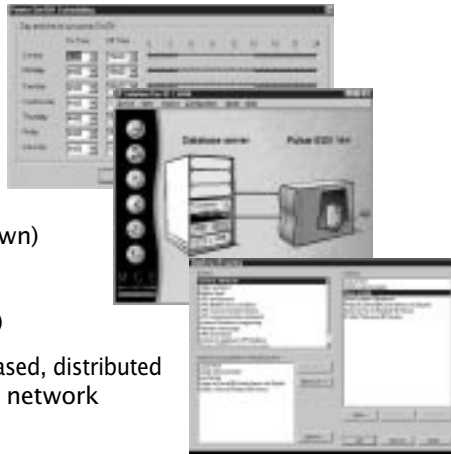
Perfect Network Integration

Solution-Pac Power Management Software

All ESV+ models are supplied with MGE's **Solution-Pac** software. This is the most comprehensive tool available for:

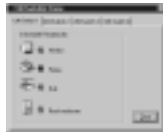
- ▶ Power management
- ▶ UPS remote control
- ▶ Automation of everyday tasks (e.g. server startup and shutdown)
- ▶ Setup of proactive measures during an emergency (orderly system shutdown, paging, etc.)

Solution-Pac/WAN uses a TCP/IP-based, distributed architecture to provide extensive network communication capabilities:



▶ Cross-platform compatibility	Lets you operate any combination of Windows NT, Netware, Unix, OS/2 and VAX systems
▶ Multiple server shutdown	Without the use of bulky, expensive and featureless external splitter boxes
▶ Built-in SNMP capabilities	Remote management from Solution-Pac Windows or Unix-based consoles
▶ NMS compatible	Monitor all MGE UPSs from a remote network management system using snap-in applications for CA Unicenter TNG, HP Overview, IBM Netview or SunNetManager included in the Management-Pac CD-ROM (optional)

Control Each Network Device Independently



All ESV+ models are equipped with the exclusive PowerShare™ function for individual control of equipment connected to the UPS outlets. PowerShare™ brings a new dimension to power management with a whole host of possibilities:

▶ Reboot locked-up devices remotely over the network	No power interruption to other devices connected to the UPS
▶ Assign specific battery back-up time to each individual device	Shedding non-critical peripherals significantly increases the uptime of the server
▶ Startup and shutdown of each device in a preset sequence	Avoid initialization problems due to inrush currents

Direct Network Connection

In addition to the convenient proxy agents provided with Solution-Pac, the optional Ethernet/SNMP card provides direct network connection. The UPS will have its own IP address and ability to remotely control the server it protects. The optional status card is used for telecom applications where only basic information such as "UPS on battery" or "low battery" is required. It is also used to interface Pulsar ESV+ with an IBM AS/400.

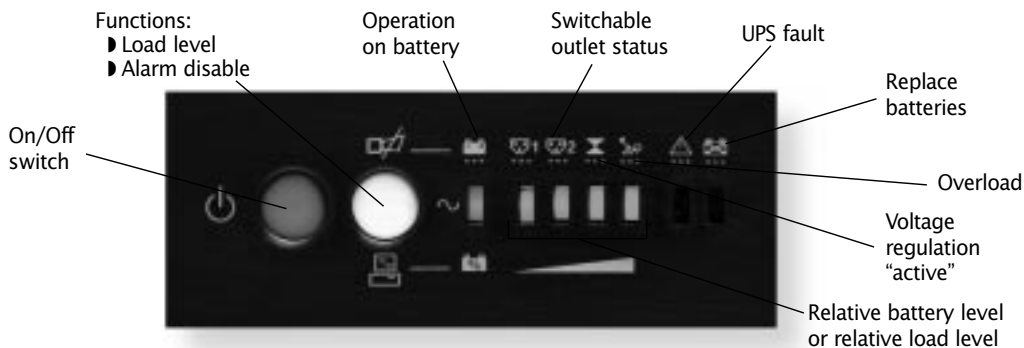


Environment Monitoring



The optional UM Sensor monitors the temperature and humidity of the network room where UPS is installed. Eight external alarms including access control or smoke detection can also be managed. UM Sensor interfaces with Solution-Pac power management software.

Comprehensive Display and Controls



Pulsar ESV+: Specifications



Dimensions and Weights

Model No.	Part No.	Dimensions WxHxD (in.)	Weight (lbs.)	Part No.	Dimensions WxHxD (in.)	Weight (lbs.)	Part No.	Dimensions WxHxD (in.)	Weight (lbs.)
ESV 5+ (480VA/280W)							84005	1.8x11x11	9
ESV 8+ (780VA/490W)	84008	5.5x7x15	29	84008R	3U-19x5.3x18	55			
ESV 11+ (1080VA/700W)	84011	6.8x9.8x18	46	84011R	3U-19x5.3x18	64			
ESV 14+ (1400VA/980W)	84014	6.8x9.8x18	51	84014R	3U-19x5.3x18	68			
ESV 22+ (2200VA/1540W)	84022	6.8x9.8x18	35	84022R	4U-19x7x18	97			
ESV 22 battery module	84023	6.8x9.8x18	44						
EBXLA battery extension	84000	6.8x9.8x18	77						
Rack Kit 8505U	5U-19x10x19		20				8202U	2U-19x3.5x12	4

Note: ESV 22+ (tower model only) is ordered in 2 parts minimum; the UPS electronics (84022) and the UPS battery (84023). Both parts are necessary for a functional system.

Sizing Guide and Battery Runtimes

	1 Hub+ 1 Router Server	Small Business Server	Work- group Server	Depart- mental Server	2 Each Servers	Enterprise Server	3 Each Servers	4 Each Servers
Power (VA)	100	250	450	700	1000	1200	1400	2000
ESV 5+	45	15	4					
ESV 8+	90	35	17	5				
ESV 11+	95	45	22	13	6			
ESV 14+	160	76	30	14	9	6	5	
ESV 22+	220	120	75	42	24	18	14	8

Fig. 2 servers are protected for 6 minutes with an ESV11+, 9 minutes with an ESV14+ and 24 minutes with an ESV22+. For extended runtimes; each EBXLA adds one hour of runtime at 1.2 kVA maximum load. Up to 7 EBXLAs may be utilized. The maximum runtime at partial load is 9.5 hours with seven EBXLAs.

Characteristics

Characteristics	ESV5+	ESV8+	ESV11+	ESV14+	ESV22+**
Electrical					
Input voltage range		93-138 volts (when set at 120V nominal)			
Output voltage on utility	93-138 volts	103-129 volts	103-129 volts	103-129 volts	103-129 volts
Output voltage (on batteries)	100/120/127 Volts ±5% (user-selectable)				
Output frequency (on batteries)	47-53 Hz or 57-63 Hz, auto-select				
Output voltage shape	Pseudo-sine	Sine	Sine	Sine	Sine
Automatic voltage regulation	•				
Batteries					
Type	2x6V/7Ah	2x12V/7Ah	3x12V/7Ah	4x12V/7Ah	4x12V/12Ah
Recharge time	2 hours				
User connections					
Type of output receptacles (NEMA)	2x 5-15	4x 5-15	6x 5-15	6x 5-15	4x 5-15, 1xL5-30
Communication port	DB 9 with ASCII protocol (50 variables)				
Windows 95/98 Plug & Play	•	•	•	•	•
Optional SNMP/Status board	•	•	•	•	•
Switchable outlets	•	•	•	•	•
Line filtering	Fax/modem	Network	Network	Network	Network
Software included (Solution-Pac)	Windows 3.1, 95, 98, NT, NetWare, OS/2, SCO Unix, Sun Solaris, HP/UX, IBM AIX, DEC Unix, Linux, Mac/OS, SNMP agents				
Design standards/warranty					
Safety	UL, cUL, FCC A				
Surge protection	ANSI C62.41				
Manufacturer certifications	Windows 95/98, NT, NetWare, SCO, Sun Solstice, IBM, HP OpenView				
Warranty (U.S. & Canada)	2 years parts and labor				
P3 equipment protection (U.S. & Canada)	\$35,000				

** (2 modules)



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