

Galaxy PW

100, 130, 150, 180, 200, 225 kVA

Next Generation Critical Power Protection System



After considerable success worldwide, the Galaxy PW UPS from **MGE UPS SYSTEMS** is now available for the North American market. The Galaxy PW's popularity is due not only to its exceptional reliability track record but also for its modular design that permits the paralleling of modules for capacity or redundancy without extra paralleling gear. The lower power ratings on the Galaxy PW can also be field upgraded up to 225 kVA, addressing smaller increases in power requirements without incurring the cost of another UPS module. Providing up to 225 kVA/200 kW in a space saving 11 square feet, the Galaxy PW has one of the highest power densities available complimented by a 0.9+ output factor to perfectly match load profiles.

Built on the reliability of the original Galaxy PW, the next generation PW offers improvements including generator friendly topology to avoid excessive generator over-sizing requirements. Other notable features include a user friendly operator interface, high energy efficiency, and advanced battery management system with automated self testing, alerting you to battery performance issues before they have a chance to affect UPS reliability.

Installed in over 5000 critical applications, the Galaxy PW is the right choice for your power protection needs.

THE UNINTERRUPTIBLE POWER PROVIDER

Advanced Features

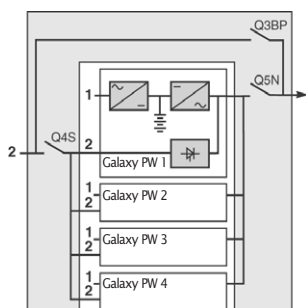
- ▶ 0.9 Output Power Factor
- ▶ Modular Design for Easy Upgrading or Expansion
- ▶ Parallel Modules for Capacity or Redundancy
- ▶ Field Upgradeable Power Output**
- ▶ Low kVAR Input Filter
- ▶ Generator Friendly for Low UPS to Generator Sizing Ratios
- ▶ Proven Reliability in Over 5,000 Installations
- ▶ Advanced Battery Management System with Automatic Self Testing
- ▶ Front Access Design
- ▶ Small Footprint/Very High Power Density
- ▶ Simple, Secure and Easy to Read Operator Interface
- ▶ Backed by MGE's 700 Field Service Engineers

** on 100-200 kVA modules only

M G E
UPS SYSTEMS

Galaxy PW - Redefining Power Quality

Scalable and Upgradeable Power



No additional paralleling gear required!



Simple and secure paralleling technology

Galaxy PW modules can be paralleled for redundancy or capacity simply by bussing the output of the modules together. All paralleling intelligence resides in each module for true redundancy. Up to three modules can be paralleled for capacity and four modules for redundancy. A system level wrap around maintenance bypass facilitates easy cable landing while providing a system level maintenance bypass. Internal maintenance bypasses on each UPS module allow each module to be isolated for maintenance.

Upgradeable Power Levels

The Galaxy PW is field upgradeable up to 225 kVA, providing the extra power you need without the expense of added equipment or installation costs.

Reliability Advantages

User Friendly Interface



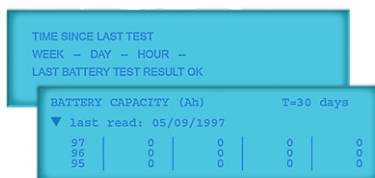
A back-lit, wide-angle graphic display lets you scroll through clear messages presenting

detailed information on diagnostics and UPS status. An event log tracks all alarms and events including UPS and battery lifecycle data. All alarms are clearly explained in detail to walk operators safely through any situation.

- ▶ LED Mimic Diagram
- ▶ Alarm Event Log
- ▶ Battery and UPS Cycle Monitor
- ▶ Self Diagnostic Report

Integrated Battery Diagnostics

Battery failure is the leading cause of UPS reliability issues. The Galaxy PW's integrated battery diagnostic system automatically performs periodic battery health tests, alerting operators to irregularities before they have a chance to affect UPS performance.



Battery System OK

Generator Friendly

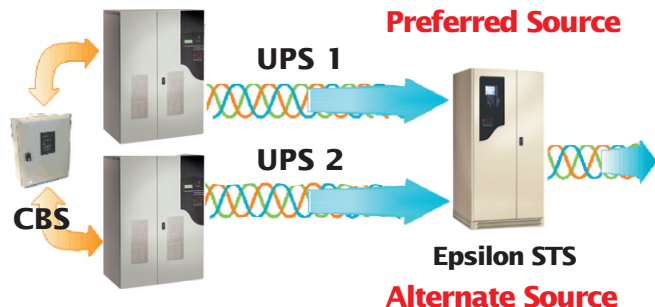
The Galaxy PW utilizes MGE's low KVAR filter to limit leading power factor on the input. This eliminates the need for costly generator oversizing and eliminates common UPS generator compatibility issues.



Galaxy PW Peripherals

Critical Bus Synchronization

The Critical Bus Synchronization (CBS) module keeps the outputs of two UPS modules in sync with each other under all operating conditions. This assures a seamless transfer between UPS modules when using downstream static transfer switches.



Communication Solutions

From dry contact status relays, to web based status cards, the Galaxy PW can be equipped with any communication interface.

Web Based Monitoring



- U-Talk card
- RS232/RS485 serial card
- USB
- SNMP or XML Web card
- Dry Contact Relay card

The Proven Solution

The sleek, modular design of the Galaxy PW has been proven reliable in over 5000 installations world wide prior to being offered in the North American market.

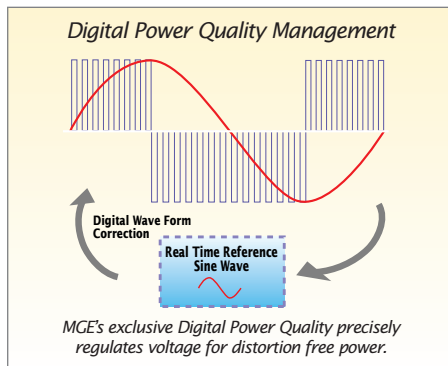
The Galaxy PW features:

- ▶ A tried and tested 3rd generation electronic control architecture
- ▶ IGBT based inverter technology and innovative connector technologies to significantly reduce the number of PC boards and connections for improved reliability
- ▶ Integrated self protection features such as sub-cycle current limiting to protect the UPS against dead shorts
- ▶ Board level self diagnostics and auto calibration to ensure proper performance under all operating conditions

MGE Legendary IGBT inverter technology: MGE pioneered the use of IGBT inverter technology for UPSs. The Galaxy PW uses third generation inverter technology that delivers precision voltage regulation under all operating conditions, total harmonic management and a robust design that protects the UPS from damage even in the event of a dead short.

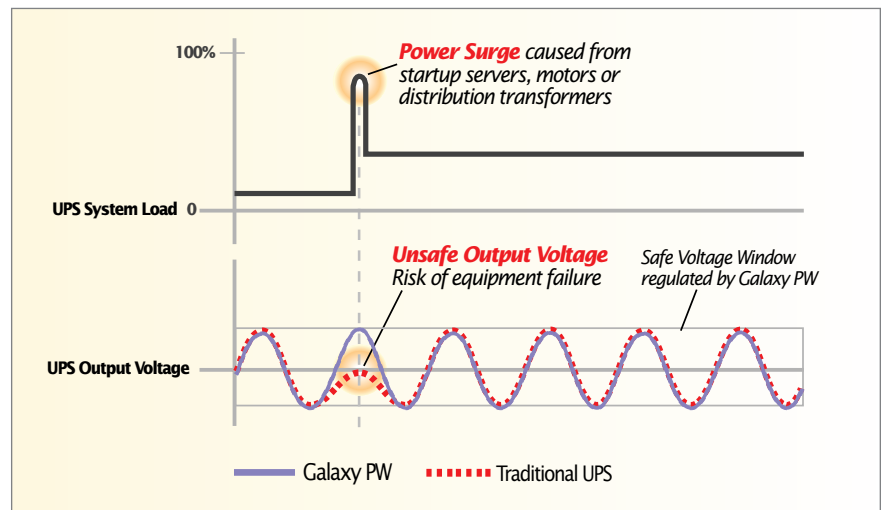


Precision Power Quality



Digital Power Quality Management

Perfect Power: The Galaxy PW uses MGE's Digital Power Quality (DPQ) technology to deliver precisely regulated, practically distortion free power under all operating conditions. DPQ technology compares the output wave form to a computer simulated wave form. Any imperfections are immediately corrected using tiny sub-cycle pulses maintaining a pure sine wave output under all load conditions.

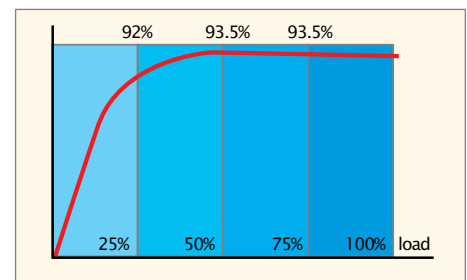


Excellent Transient Load Response

Under any circumstances, a UPS must be capable of instantly supplying its full rated load without affecting the voltage regulation. Galaxy PW can handle this demand without transfer to the bypass line while maintaining the output voltage well within the tolerance limits demanded by sensitive equipment ($\pm 5\%$ voltage variation for a 100% load step change).

Energy Efficiency – Cost Savings that Matters

A major factor in selecting a high-power UPS is its efficiency. The reason is simple—an efficiency advantage of only 3–4% over five years can represent a savings in electricity costs equivalent to half the cost of the UPS! Furthermore, most UPSs supply continuous average loads that amount to only 50–60% of their rated output, a level where their efficiency is far from optimum. The efficiency of the Galaxy PW is among the highest available in today's market and remains virtually constant from 25–100% of rated power. The result is often a real cost savings that makes the Galaxy PW the least expensive choice in the long run.

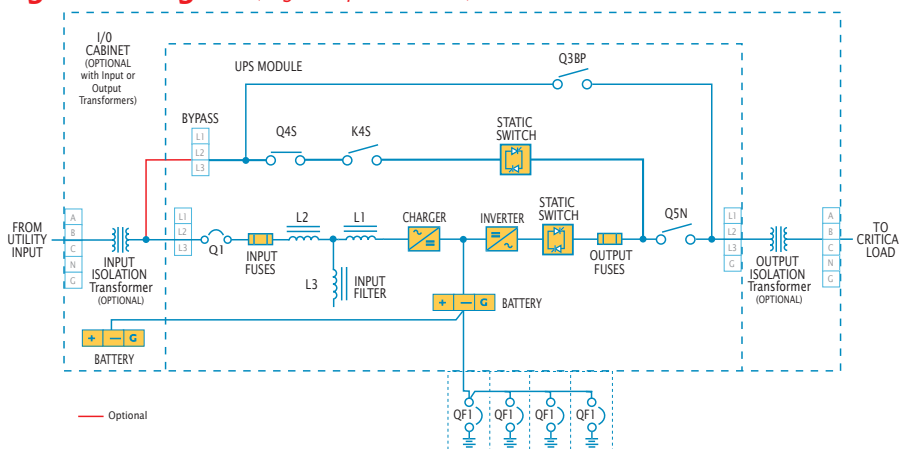


UPS Module Specifications

	100 kVA				130 kVA				150 kVA			
Input Voltage (V)	208	480	480	600	208	480	480	600	208	480	480	600
Output Voltage (V)	208	208	480	600	208	208	480	600	208	208	480	600
Nominal Input Current (A)	311	135	135	108	414	180	180	144	483	210	210	168
Maximum Input Current (A)	343	149	149	119	455	198	198	158	531	231	231	185
Nominal Output Current (A)	278	279	121	97	361	361	157	126	416	418	181	145
DC Current at Nominal Voltage (A)	219				283				331			
Efficiency at 100%	92.5%				93%				93%			
Full Load Heat Rejection (BTUs)	25600				31060				35840			
UPS Module Weight (lbs)	3050*				3050*				3050*			
Module Width (75"H x 33"D)	48"				48"				48"			
	180 kVA				200 kVA				225 kVA			
Input Voltage (V)	208	480	480	600	208	480	480	600	208	480	480	600
Output Voltage (V)	208	208	480	600	208	208	480	600	208	208	480	600
Nominal Input Current (A)	600	260	260	208	692	300	300	240	692	300	300	240
Maximum Input Current (A)	660	286	286	229	738	320	320	256	738	320	320	256
Nominal Output Current (A)	501	501	217	174	556	556	241	217	625	625	271	217
DC Current at Nominal Voltage (A)	392				438				442			
Efficiency at 100%	93%				93.5%				93.5%			
Full Load Heat Rejection (BTUs)	43000				44370				45000			
UPS Module Weight (lbs)	3050*				3050*				3050*			
Module Width (75"H x 33"D)	48"				48"				48"			

*UPS module only, including 50 lb. pallet ~ does not include transformer and auxiliary cabinets

Single Line Diagram (single and parallel models)



Galaxy PW Battery Systems ~ Backup time in minutes at 100% load @ 0.8 power factor

Qty. Cabinets	Weight (lbs)	100 kVA 0.8 PF	0.9 PF	130 kVA 0.8 PF	0.9 PF	150 kVA 0.8 PF	0.9 PF	180 kVA 0.8 PF	0.9 PF	200 kVA 0.8 PF	0.9 PF	225 kVA 0.8 PF	0.9 PF	CB Rating
1	3,070	10	8	7	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	250 A
2	6,140	30	26	22	17	16	13	12	10	10	8	8	6	250 A
3	9,210	50	44	35	30	30	25	22	19	20	17	16	13	250 A
4	12,280	75	64	50	44	41	36	35	30	30	26	26	21	250 A
1	3,734	17	14	11	9	9	7	6	n/a	5	n/a	n/a	n/a	250 A
2	7,468	41	35	30	26	25	22	20	17	17	14	14	12	250 A
3	11,202	74	62	50	43	42	37	33	28	30	26	24	22	250 A
4	14,936	105	93	75	64	60	53	48	42	42	37	36	33	250 A
1	4,770	23	19	15	12	12	9	8	5	6	n/a	n/a	n/a	400 A
2	9,540	59	52	42	36	36	31	28	23	24	20	19	16	400 A
3	14,310	100	87	74	61	59	52	46	41	41	35	37	31	400 A
4	19,080	135	120	100	88	85	74	68	59	60	52	51	44	400 A

Battery System Features

- Individual cabinet dimensions: 75" H x 50" W x 33" D
- All cabinets have a standard internal battery disconnect
- Cabinets may be ordered adjacent to the UPS or remote available upon request
- Run time specifications are for 77°F/25°C and may differ with temperature
- Longer duration battery banks and wet cell batteries are available on request
- Above battery systems are housed in a matching enclosure
- All batteries specified above are sealed, low maintenance cells

Standard Features

- IGBT/PWM Inverter
- Low kVAR Input Filter
- LED Mimic Diagram
- Guided Operator Interface
- Advanced Battery Management System
- Modular Power Assemblies
- Front Access Design
- Computer Aided Self Diagnostics
- RS2323/485 Serial Interface
- Dry Contact Relay Status Array
- Top to Bottom Access Models

AC Electrical Characteristics

- Output Power Factor: ≥ 0.9
- Input Source: 208, 480, 600VAC 3PH, 3W + G (or 4W + G for Bypass)
- Output: 208, 480, 600VAC 3PH, 3W + G, or 4W + G
- Input Frequency Window: 60Hz/± 10%
- Inverter Sync. to Bypass: ± 0.5 Hz (adjustable from ± 0.25 Hz to ± 2 Hz)
- Input THDI: $< 7.5\%$ at 225 kVA
- Voltage Transient Response (at 100% Step Load): $\pm 2\%$
- Inverter Overload Capacity (A): 150% for 1 min.; 125% for 10 min.
- Bypass Instant Overload (1 cycle): 22 times nominal current
- THDV (linear loads): $< 1.5\%$ Ph/Ph, $< 2.0\%$ Ph/N
- THDV (non-linear loads): $< 2.0\%$ Ph/Ph, $< 3.0\%$ Ph/N
- Input Switch Q1: 400 A
- Bypass Input Contactor: 265 A (350 IEC)
- Bypass Switch(es) Q4S/Q3BP/Q5N: 400A

DC Electrical Characteristics

- DC Nominal Voltage: 480 VDC
- Max. DC Float Voltage: 545 VDC
- Min. DC Cut-Off Voltage: 390 VDC

Environmental Characteristics

- Storage Temperature Range: -25°C to +70°C
- Operating Temperature Range: 0°C to 40°C
- Relative Humidity: 95% maximum
- Noise Level (dBA): 68

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