

EATON

Powerware

Powerware® Battery Cabinets for Powerware 9315 UPS

Product Focus

200-500 kVA



Series 1085 Battery Cabinet

Features

- Top and bottom wire entry provides installation flexibility
- Casters enhance portability
- A DC-rated circuit breaker within each cabinet provides protection and servicing isolation
- Each circuit breaker features:
 - An auxiliary switch for UPS sensing of circuit breaker closure
 - A 24 VDC shunt trip to accommodate a remote EPO circuit
- Options
 - Internal pass-through wiring for lineup and match configurations
 - An internal wireway for power and control wiring reduces installation expenses

Flexibility

- Cabinets feature a wide range of available battery sizes, optimized to meet application runtime needs
- Up to four cabinets may be daisy-chained together for extended battery runtimes
- Remote configurations are standard for Powerware 9315 (200–500 kVA)

Reliability

- Cabinets are UL 1778 listed
- Flame retardant batteries meet UL94V2 for computer room installations

Serviceability

- “Front access only” enhances servicing and installation
- Modular battery packaging facilitates periodic servicing accessibility
- Each battery string contains a DC Disconnect, so multi-string DC systems can be serviced while the UPS is still online



Features of Powerware Brand Batteries

- UL recognized components under UL924 as well as ISO 9001 and ISO 14001 certified
- Specially designed for high power density and long life applications
- Analytical Grade electrolyte
- Low self-discharge
- Can be used for more than 260 cycles at 100% discharge in cycle service
- Built to comply with IEC 896-2, DIN 473534, BS 6290 Pt4, Eurobat
- Exclusive, three year battery parts coverage and one year battery labor coverage
- Available at 280, 330, 390, and 500 Watts per cell

Battery Runtime (minutes)

POWERWARE 9315 (200-500 kVA, 50 Hz)

Model Number					9315-200		9315-250				9315-400				
kVA					200.0	200.0	200.0	200.0	250.0	250.0	300.0	300.0	400.0	400.0	
kW					160.0	180.0	160.0	180.0	200.0	225.0	240.0	270.0	320.0	360.0	
Battery Type	Number	Cabinet	Installed Weight	Width* in. (mm)											
	Parallel Strings	Series	lb. (kg)												
J27	2	1085	6300 (2858)	86 (2184)	9	7	9	7	5	-	-	-	-	-	
E28	2	1085	6500 (2942)	86 (2184)	9	7	9	7	5	-	-	-	-	-	
J31	2	1085	6990 (3171)	86 (2184)	11	9	11	9	7	6	-	-	-	-	
E33	2	1085	7190 (3255)	86 (2184)	12	10	12	9	8	6	-	-	-	-	
J37	2	1085	7530 (3416)	86 (2184)	15	11	11	8	7	5	-	-	-	-	
E39	2	1085	7850 (3554)	86 (2184)	16	13	16	13	11	9	7	5	-	-	
J47	2	1085	9600 (4354)	86 (2184)	19	15	19	15	13	9	8	6	-	-	
E50	2	1085	9680 (4384)	86 (2184)	20	17	20	17	14	11	9	7	-	-	
J27	3	1085	9450 (4286)	129 (3277)	17	13	17	13	12	9	9	7	-	-	
E28	3	1085	9750 (4409)	129 (3277)	18	14	18	13	13	10	9	7	-	-	
J31	3	1085	10485 (4756)	129 (3277)	21	18	21	18	15	12	11	9	6	-	
E33	3	1085	10785 (4878)	129 (3277)	22	19	22	19	16	13	12	9	6	-	
J37	3	1085	11295 (5123)	129 (3277)	27	22	27	22	19	15	15	11	9	7	
E39	3	1085	11775 (5328)	129 (3277)	27	23	27	23	20	17	16	12	10	7	
J47	3	1085	14400 (6532)	129 (3277)	37	29	37	29	26	21	19	15	11	8	
E50	3	1085	14520 (6633)	129 (3277)	37	30	37	30	27	22	20	16	12	10	
J27	4	1085	12600 (5715)	172 (4369)	27	21	27	21	19	15	14	11	9	7	
E28	4	1085	13000 (5876)	172 (4369)	27	22	27	21	20	16	14	12	10	7	
J31	4	1085	13980 (6341)	172 (4369)	32	27	32	27	24	19	18	14	11	9	
E33	4	1085	14380 (6502)	172 (4369)	33	28	33	28	25	20	19	15	12	10	
J37	4	1085	15060 (6831)	172 (4369)	39	32	39	32	30	24	23	19	15	11	
E39	4	1085	15700 (7101)	172 (4369)	39	33	39	33	30	25	24	20	15	12	
J47	4	1085	19200 (8709)	172 (4369)	54	46	54	46	41	32	31	26	19	15	
E50	4	1085	19360 (8761)	172 (4369)	54	46	54	46	41	33	31	27	20	16	
Nominal DC Link Voltage					420	420	420	420	420	420	420	420	420	420	420

*All cabinets are 73.5 inches (1867 mm) high and 31.5 inches (800 mm) in depth; Add 2 inches (51 mm) to cabinet width if remote configuration.

Additional Features & Benefits



Series 1085 Battery Cabinet with doors removed.

- Quick disconnects between battery tray assemblies reduce battery maintenance time
- Manufacturer supplied wiring with quick disconnects provides plug and play capability for lineup and match configurations
- Removable battery tray assemblies provide “front access only” and reduce battery maintenance time
- Mechanical lugs, located adjacent to the internal wire-way, reduce installation time for remote configurations
- The circuit breaker features shunt trip and A/B auxiliaries for UPS remote control and sensing capability
- A DC-rated circuit breaker in each battery cabinet allows multiple battery strings to be serviced independently of each other, assuring backup power is always available to the UPS

Battery Runtime (minutes)

POWERWARE 9315 (225-500 kVA, 60 Hz)

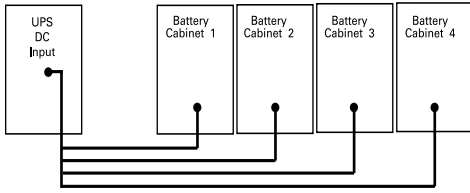
Model Number		9315-225		9315-300				9315-500					
kVA kW		225.0 180.0	225.0 202.0	225.0 180.0	225.0 202.0	300.0 240.0	300.0 270.0	400.0 320.0	400.0 360.0	500.0 400.0	500.0 450.0		
Battery Type	Number Parallel Strings	Cabinet Series	Installed Weight lb. (kg)	Width* in. (mm)									
J27	2	1085	6300 (2858)	86 (2184)	9	7	9	7	-	-	-	-	
E28	2	1085	6500 (2942)	86 (2184)	9	7	9	7	-	-	-	-	
J31	2	1085	6990 (3171)	86 (2184)	12	9	12	9	7	5	-	-	
E33	2	1085	7190 (3255)	86 (2184)	13	10	13	10	7	5	-	-	
J37	2	1085	7530 (3416)	86 (2184)	15	12	15	12	9	7	-	-	
E39	2	1085	7850 (3554)	86 (2184)	17	15	17	15	10	7	-	-	
J47	2	1085	9600 (4354)	86 (2184)	20	16	20	16	11	8	5	-	
E50	2	1085	9680 (4384)	86 (2184)	22	18	22	18	13	10	6	-	
J27	3	1085	9450 (4286)	129 (3277)	17	14	17	14	11	9	6	-	
E28	3	1085	9750 (4409)	129 (3277)	19	16	19	16	12	9	6	-	
J31	3	1085	10485 (4756)	129 (3277)	22	18	22	18	14	10	8	6	
E33	3	1085	10785 (4878)	129 (3277)	24	20	24	20	15	13	9	6	
J37	3	1085	11295 (5123)	129 (3277)	28	22	28	22	18	14	12	9	
E39	3	1085	11775 (5328)	129 (3277)	29	24	29	24	19	16	13	10	
J47	3	1085	14400 (6532)	129 (3277)	38	31	38	31	25	19	15	10	
E50	3	1085	14520 (6633)	129 (3277)	38	32	38	32	26	21	17	13	
J27	4	1085	12600 (5715)	172 (4369)	28	22	28	22	17	14	11	9	
E28	4	1085	13000 (5876)	172 (4369)	28	23	28	23	18	15	12	9	
J31	4	1085	13980 (6341)	172 (4369)	32	27	32	27	22	18	14	10	
E33	4	1085	14380 (6502)	172 (4369)	33	28	33	28	23	19	15	12	
J37	4	1085	15060 (6831)	172 (4369)	40	33	40	33	28	22	18	14	
E39	4	1085	15700 (7101)	172 (4369)	40	34	40	34	28	23	19	16	
J47	4	1085	19200 (8709)	172 (4369)	55	48	55	48	38	31	25	19	
E50	4	1085	19360 (8761)	172 (4369)	54	47	54	47	35	29	23	19	
Nominal DC Link Voltage					480	480	480	480	480	480	480	480	480

*All cabinets are 73.5 inches (1867 mm) high and 31.5 inches (800 mm) in depth; Add 2 inches (51 mm) to cabinet width if remote configuration.

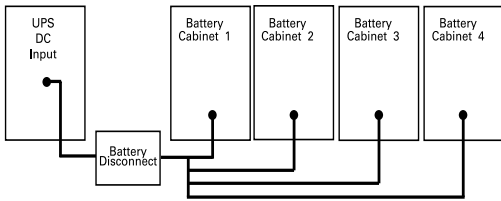
Available Wiring Configurations

9315-200 through 500

1. In this remote configuration, the battery cabinets are individually connected to the UPS using customer-supplied wiring. The battery cabinets may be bolted to each other and the UPS using manufacturer-supplied hardware.



2. In this remote configuration, the battery cabinets are individually connected to the UPS through a battery disconnect using customer-supplied wiring. The battery cabinets may be bolted to each other and the UPS using manufacturer-supplied hardware.



Environmental requirements for operation of the battery system are:

Ambient temperature range: 10–40°C (50–104°F)

Recommended operating range: 20–25°C (68–77°F)

Maximum relative humidity: 95%

Key factors that affect battery life

1. Ambient temperature

The rated output capacity of a battery is based on an ambient temperature of 25°C (77°F). It is important to realize that any variation from this operating temperature can alter the performance of the battery and shorten its expected life. A good rule of thumb when determining battery life in relation to temperature is that for every 8.3°C (15°F) average annual temperature above 25°C (77°F), the life of the battery is reduced by 50 percent.

2. Cycling

During a utility power failure (severe brownout or blackout conditions), the UPS operates on battery power. Once utility power is restored, the battery is recharged for future use. This entire 'loop' is considered a discharge cycle. When installed, the battery is at 100 percent of rated capacity. Each discharge and subsequent recharge reduces the relative capacity of the battery by a small percentage. The length of the discharge cycle will determine the reduction in battery capacity.

3. Maintenance and service

The gradual decrease in battery capacity can be monitored and evaluated through voltage checks, load testing and retorquing connections, as part of a periodic maintenance program. Without regular maintenance and service checks, your UPS battery may experience:

- Heat-generating resistance at the terminals
- Improper loading
- Reduced protection
- Premature failure

With proper maintenance and service, the end of battery life can be determined and replacements scheduled without any interruption or loss of backup power.

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