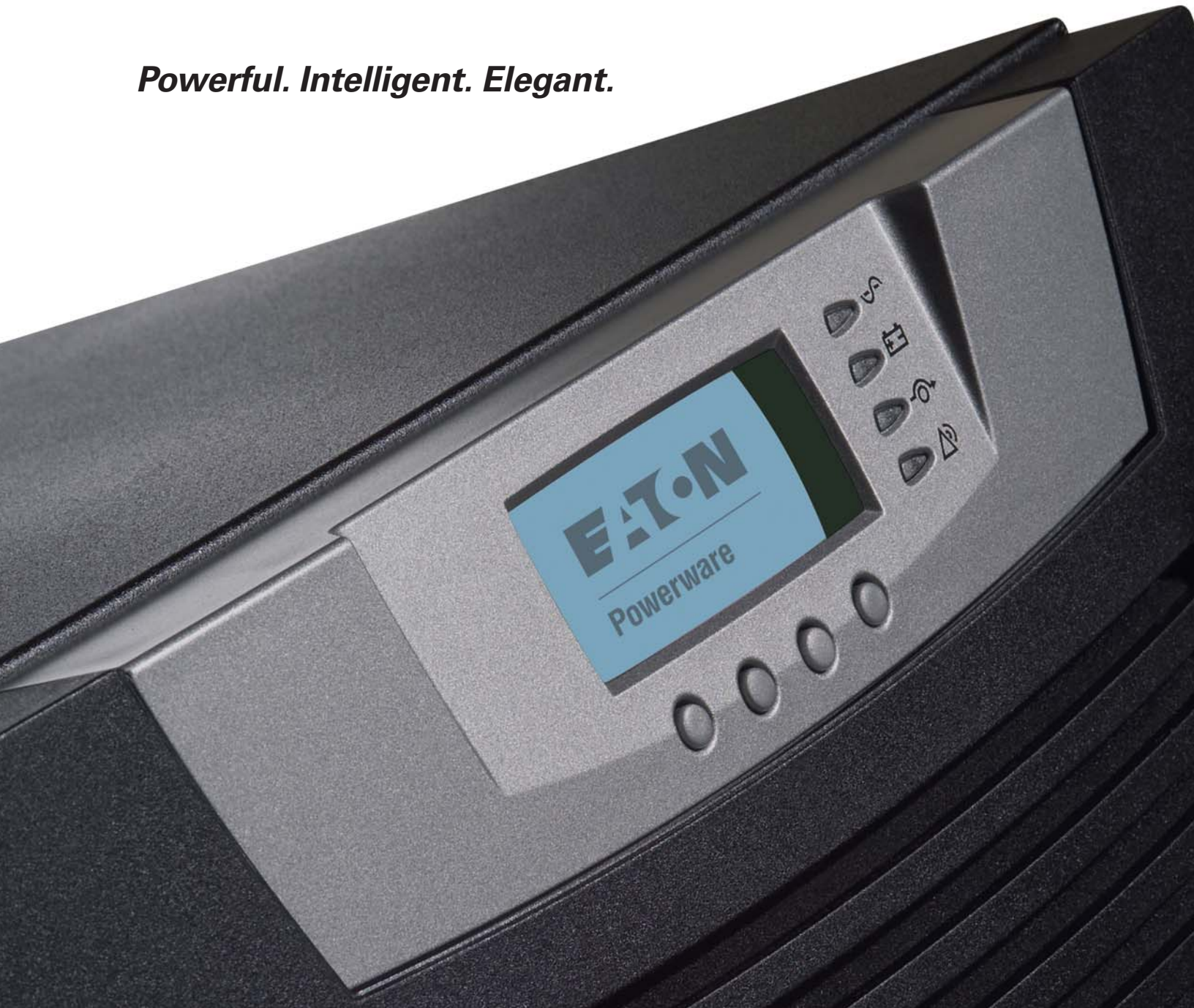
Powerware

Powerware® 9355 UPS
Product Focus

10-30 kVA

Powerful. Intelligent. Elegant.



Product introduction

10-15 kVA

20-30 kVA

Product snapshot

Technology:	Three-phase double-conversion online UPS
Power rating:	10 kVA, 15 kVA, 20 kVA and 30 kVA at 0.9 power factor
Input voltage:	208V/120V or 220V/127V
Output voltage:	208V/120V or 220V/127V 480:120V/208V or 600:120/208 with input isolation transformer (at 60 Hz only)
Frequency:	50/60 Hz auto-sensing
Dimensions:	Two-high configuration: 10-15 kVA: 32.2" H x 12" W x 32.5" D Three-high configuration: 10-15 kVA: 47.8" H x 12" W x 32.5" D Tower configuration: 20-30 kVA: 66" H x 20" W x 34" D
Configuration:	Small-footprint tower, black
Battery backup:	Up to 22 minutes typical, extendable up to three hours (See battery backup charts)

Responding to the challenge of providing effective power protection for ever-expanding loads in shrinking spaces, the Powerware 9355 three-phase uninterruptible power system (UPS) delivers enhanced power protection in half the footprint of previous-generation systems. The Powerware 9355 UPS provides 10 kVA to 30 kVA of power protection in a sleek tower configuration that includes internal batteries. This innovative design delivers one of the industry's best combinations of high efficiency, low input current distortion and high power factor. The result is maximal economy, adaptability and power performance.

With advances being made in miniaturization and processing power and more equipment being served by dual-cord power supplies, the challenge of protecting that power, and doing so in a limited space, grows ever greater.

Fortunately, advances in technology have also meant that more power protection per square foot can now be provided. The Powerware 9355 UPS delivers premium levels of efficiency, reliability and flexibility, all in a sleek tower half the size of most other units on the market today.

These double-conversion, online UPSs resolve all nine common utility power problems and supply clean, continuous power to all connected equipment. Even when presented with the most severe power problems, power output remains stable. And if the utility power goes out altogether, there is no delay transferring to backup power.

These capabilities make the Powerware 9355 UPS ideal for protecting essential data center, communications and electrical engineering infrastructures in corporate, telecom, healthcare, banking, public sector and industrial networks.

Features of the Powerware 9355 UPS

- A true online, double-conversion topology protects connected equipment from all nine of the most common power problems
- Delivers maximum power density in a compact tower design: 10 and 15 kVA are only 12" wide and 33" deep, including batteries; 20 and 30 kVA are only 20" wide and 34" deep, including batteries
- Provides more real power in less space (5,500 watts per square foot) with a 0.9 output power factor – protecting more equipment for every utility dollar and leaving more room for expansion of the data center
- Patented Powerware Hot Sync® paralleling of multiple UPS modules delivers extra capacity or redundancy
- Customizable output distribution provides user-specified power outlets along with terminals for connecting hard-wired equipment
- Microprocessor-controlled ABM® technology significantly increases battery life
- Provides a 0.99 input power factor and generator-friendly <5% total harmonic distortion using an active IGBT rectifier to control the input power factor
- Ensures data and system integrity with complete power management software for remote monitoring, management and shutdown
- An Eaton® factory limited warranty, technical support and optional service plans provide investment protection and peace of mind

Premium power protection is now easier than ever

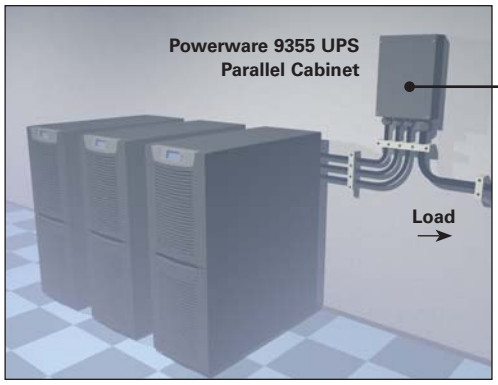
With raised-floor real estate at a premium, you'll appreciate that the Powerware 9355 UPS requires only three to six square feet of floor space, including internal batteries. Such a small footprint gives you more location options and more space available for future expansion.

Equipment installation is inexpensive and easy – essentially plug-and-play. You can order the 10 and 15 kVA UPS models with your choice of more than 19 types of output receptacles. To rearrange or add data center equipment, you simply unplug from the old receptacle and plug into a new one. There is no need for an electrician to run new conduit and wiring.

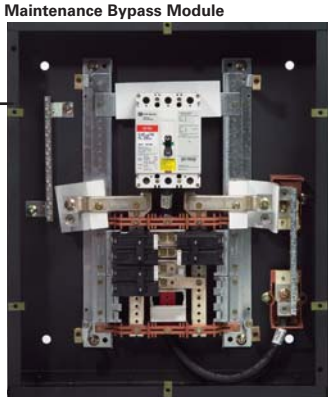
Scalable architecture meets current and future load requirements

Powerware 9355 UPSs come in 10, 15, 20 and 30 kVA models, so you can choose the configuration that most closely meets your own capacity requirements and price point. And you can scale from there. Using our signature Powerware Hot Sync paralleling technology, up to four Powerware 9355 UPS modules can be paralleled for extra capacity or redundancy. A 15 kVA UPS, for example, can grow to support loads of up to 45 kVA. Likewise, a 30 kVA UPS can grow to support loads of up to 90 kVA, with N+1 redundancy. There's no dependence on communications wiring among these modules, enhancing reliability and simplifying installation. This paralleling capability is far more easily achieved than is the case with most competitors' products.

Powerware Hot Sync redundant/capacity



Inside view of Powerware 9355 Parallel Cabinet/ Maintenance Bypass Module



Battery innovations optimize battery performance and service life

Standard internal batteries provide power until auxiliary power takes over or systems are gracefully shut down. Battery runtime can be extended to hours by adding matching extended battery options.

Extended battery options

20/30 kVA EBC

Front view

Rear view

10/15 kVA, three-high EBM

With 15 years of in-service experience, Eaton has real-world proof that ABM technology can significantly increase battery service life.

The Powerware 9355 UPS uses sophisticated technologies that maximize the health and service life of batteries:

- ABM technology uses a unique three-stage charging technique that significantly extends battery service life and optimizes recharge time (compared to traditional trickle charging)
- Temperature-compensated charging monitors battery temperature and adjusts the charge rate accordingly, which properly charges the battery and greatly extends battery life
- An integrated battery management system tests and monitors battery health and remaining lifetime, providing user notification to guide preventive maintenance

Unlike heavy, old-style batteries, Eaton's batteries are easily field-replaceable. One person, working alone, can replace a battery without disrupting data center operations or power to protected equipment.

Advanced design delivers unequaled power performance

Lower costs, lower temperatures. High efficiency (greater than 90 percent across all load ranges) reduces utility costs, extends battery runtimes and produces cooler operating conditions.

Generator-friendly design. Total input harmonic distortion (THD) remains below five percent (5%) without compromising overall efficiency. The result is maximum transfer of power between source and protected load and exceptional compatibility with auxiliary generators.

10-20% more real power. On the output side, a high (0.9) power factor enables the Powerware 9355 UPS to provide more real power to modern IT equipment that may have a wide range of leading and lagging power factors. And, with a 0.99 input power factor, these UPSs avoid the input power disturbances energy converters tend to cause.

Protect your investment

Rest easy knowing your UPS is always on the job

While it protects your critical systems, the Powerware 9355 UPS itself is protected in several ways:

Self-diagnosis. The 9355 UPS constantly monitors its own operation – such as voltage, temperature and function of internal elements – and sends alarms or takes action if it detects a potential problem. You'll know your UPS is always performing up to specifications to protect your equipment.

Self-correction. If it senses an issue – planned or unplanned – the Powerware 9355 UPS instantly transfers the power path to a bypass source with zero interruption in power. When the alarm condition passes, the UPS automatically reverts from bypass to normal power.

Remote monitoring. You can choose to have Eaton specialists securely monitor your Powerware 9355 UPSs around the clock with the optional eNotify Remote Monitoring Service or opt to monitor your own UPSs over your LAN or the Internet. Either way, you'll always be informed of conditions in your power protection infrastructure.

Redundancy. Using Powerware Hot Sync technology, you can configure your Powerware 9355 UPS for up to N+3 redundancy. Any module can serve as backup for any other, with no interruption or downtime. For instance, you could perform full maintenance on any UPS without having to remove any loads from conditioned power.

Most other paralleling systems on the market use a top-down configuration – and so if the master fails, the subsidiary units fail. With Eaton's patented approach, each UPS module is independent, yet synchronized with the others. There is no single point of failure.

Get central control and visibility of your UPS solution

The Powerware 9355 UPS is shipped with a CD that includes Powerware LanSafe® power management software and a 30-day trial version of Powerware PowerVision® UPS performance analysis and monitoring software. Using an intuitive, graphical interface and simple network management protocol (SNMP), administrators can:

Powerware Software Suite

- Securely monitor UPS and battery performance over an existing Ethernet network and the Internet
- Establish prioritized shutdown of network devices and client/server applications
- Test all networked UPSs from one node
- Analyze trends and network conditions
- Stay informed of potential power problems by pager and e-mail

Enjoy maximum flexibility with connectivity options

The standard unit is equipped with an RS-232 serial port to communicate with power management software. You can customize your Powerware 9355 UPS by adding one or two interface cards for other applications:

Monitor the UPS from anywhere
Connect your Powerware 9355 UPS to your Ethernet network and the Internet for secure monitoring and management using a standard Web browser or SNMP.

ConnectUPS Web/SNMP Card

Interwork with your existing building management system
A Modbus® Card enable real-time monitoring of UPSs through a building management system or industrial automation system.

Modbus Card

Gather information from relay contact devices
The package provides a dry-contact interface between the Powerware 9355 UPS and any relay-connected device, including the IBM® e-server® iSeries and a variety of industrial applications.

Relay Interface Card

Monitor environmental conditions
An optional Environmental Monitoring Probe remotely monitors temperature, humidity and two user-supplied contacts/sensors, such as smoke and intrusion detection.

Environmental Monitoring Probe

Gain peace of mind with industry-leading warranty and service plans

We're so confident in the performance and reliability of the Powerware 9355 UPS and its battery system that we back them up with extensive warranty and available service plans. Gain the peace of mind that comes with factory warranty coverage (parts and labor, UPS and batteries) and rapid response from certified support engineers:

- One-year Service Protection Plan
- 7x24 emergency response
- Onsite startup support (8 hours/day, 5 days/week)
- Two-year battery warranty
- One-year eNotify Remote Monitoring Service

Beyond the warranty period, service plans are available to match any need – from basic UPS and/or battery support to all-inclusive packages with unique features, such as advanced remote monitoring with trending, customized capacity planning reports and power protection audits. Add your choice of guaranteed response times, and you can tailor just the right support package for your needs.

From Eaton—a global leader in power quality solutions

Backed by 40 years of R&D excellence, the Powerware 9355 UPS delivers confidence – confidence that your organization's critical electronics are protected by the most reliable, efficient and full-featured systems available and that Eaton will be there with you for the long term with premium warranty coverage and expert technical support.

Eaton is a global leader in power quality and management solutions – the #1 manufacturer of UPSs above 5000 VA (Frost & Sullivan; World UPS Markets, 2004).

For more information on the Powerware 9355 UPS:

www.powerware.com
1-800-356-5794

Powerware 9355 at-a-glance

MODEL SELECTION TABLE - POWERWARE 9355 UPS (10–15 kVA)

Order Number[1]	Description	Power Rating[2] (kVA/kW)	Input & Output Voltages[4]	Battery Backup[5]	Dimensions H x W x D (in)	Unit Weight[3] (lb)
KA1011100000010	PW9355 with 32-battery (2-high)	10/9	208/208	8	32.2 x 12.8 x 33.5	373
KA1012100000010	PW9355 with 64-battery (3-high)	10/9	208/208	22	47.8 x 12.8 x 33.5	609
KA1011200000010	PW9355 with 32-battery (2-high)	10/9	220/220[2]	8	32.2 x 12.8 x 33.5	373
KA1012200000010	PW9355 with 64-battery (3-high)	10/9	220/220[2]	22	47.8 x 12.8 x 33.5	609
KA1013400000010	PW9355 with 32-battery with transformer (3-high)	10/9	480/208	8	47.8 x 12.8 x 33.5	577
KA1013600000010	PW9355 with 32-battery with transformer (3-high)	10/9	600/208	8	47.8 x 12.8 x 33.5	577
KA1511100000010	PW9355 with 32-battery (2-high)	15/13.5	208/208	4	32.2 x 12.8 x 33.5	373
KA1512100000010	PW9355 with 64-battery (3-high)	15/13.5	208/208	13	47.8 x 12.8 x 33.5	609
KA1511200000010	PW9355 with 32-battery (2-high)	15/13.5	220/220[2]	4	32.2 x 12.8 x 33.5	373
KA1512200000010	PW9355 with 64-battery (3-high)	15/13.5	220/220[2]	13	47.8 x 12.8 x 33.5	609
KA1513400000010	PW9355 with 32-battery with transformer (3-high)	15/13.5	480/208	4	47.8 x 12.8 x 33.5	577
KA1513600000010	PW9355 with 32-battery with transformer (3-high)	15/13.5	600/208	4	47.8 x 12.8 x 33.5	577

1. 50/60 Hz auto-sensing
2. 220V units are wye connected 220/127V input and 220/127V output, three-phase, four-wire plus ground.
3. Weight is installed weight. To determine shipping weight: for two-high models, add 47 pounds; for 8-15 kVA three-high models, add 50 pounds; and for 20 and 30 kVA three-high models, add 75 pounds.
4. An input neutral is required for all configurations unless the input isolation transformer is used.
5. Internal battery, full load

MODEL SELECTION TABLE - POWERWARE 9355 UPS (20 - 30 kVA)

Order Number[1]			Description	Power Rating[2] (kVA/kW)	Input & Output Voltages[4]	Battery Backup[5]	Dimensions H x W x D (in)	System Weight[3] (lb)
UPS Part (CTO) Number	1st Option Cabinet	2nd Option Cabinet						
KB2013100000010	-	-	PW9355 with internal battery	20/18	208/208	18	66 x 20 x 34.1	1160
KB2013100000010	KBT001100000010*	-	PW9355 with internal battery and single feed option cabinet	20/18	208/208	18	66 x 40 x 34.1	1695
KB2013100000010	KBT001100000010*	KBT002100000010	PW9355 with internal battery and dual feed (2 opt cabs)	20/18	208/208	18	66 x 60 x 34.1	2230
KB2013200000010	-	-	PW9355 with internal battery	20/18	220/2202	18	66 x 20 x 34.1	1160
KB2013100000010	KBT001200000010*	-	PW9355 with internal battery and single feed option cabinet	20/18	480/208	18	66 x 40 x 34.1	1695
KB2013100000010	KBT001200000010*	KBT002200000010	PW9355 with internal battery and dual feed (2 opt cabs)	20/18	480/208	18	66 x 60 x 34.1	2230
KB2013100000010	KBT001300000010*	-	PW9355 with internal battery and single feed option cabinet	20/18	600/208	18	66 x 40 x 34.1	1695
KB2013100000010	KBT001300000010*	KBT002300000010	PW9355 with internal battery and dual feed (2 opt cabs)	20/18	600/208	18	66 x 60 x 34.1	2230
KB2013100000010	KBT001200000010*	KBT003200000010	PW9355 with internal battery and single feed (2 opt cabs)	20/18	480/480	18	66 x 60 x 34.1	2230
KB3013100000010	-	-	PW9355 with internal battery	30/27	208/208	11	66 x 20 x 34.1	1160
KB3013100000010	KBT001100000010*	-	PW9355 with internal battery and single feed option cabinet	30/27	208/208	11	66 x 40 x 34.1	1695
KB3013100000010	KBT001100000010*	KBT002100000010	PW9355 with internal battery and dual feed (2 opt cabs)	30/27	208/208	11	66 x 60 x 34.1	2230
KB3013200000010	-	-	PW9355 with internal battery	30/27	220/2202	11	66 x 20 x 34.1	1160
KB3013100000010	KBT001200000010*	-	PW9355 with internal battery and single feed option cabinet	30/27	480/208	11	66 x 40 x 34.1	1695
KB3013100000010	KBT001200000010*	KBT002200000010	PW9355 with internal battery and dual feed (2 opt cabs)	30/27	480/208	11	66 x 60 x 34.1	2230
KB3013100000010	KBT001300000010*	-	PW9355 with internal battery and single feed option cabinet	30/27	600/208	11	66 x 40 x 34.1	1695
KB3013100000010	KBT001300000010*	KBT002300000010	PW9355 with internal battery and dual feed (2 opt cabs)	30/27	600/208	11	66 x 60 x 34.1	2230
KB3013100000010	KBT001200000010*	KBT003200000010	PW9355 with internal battery and single feed (2 opt cabs)	30/27	480/480	11	66 x 60 x 34.1	2230

1. 50/60 Hz auto-sensing
2. 220V units are wye connected 220/127V input and 220/127V output, three-phase, four-wire plus ground.
3. Weight is installed weight. To determine shipping weight, add 75 pounds.
4. An input neutral is required for all configurations unless the input isolation transformer is used.
5. Internal battery, full load.

POWERWARE 10-15 KVA UPS BACKUP TIMES (IN MINUTES)

VA	Watt	UPS + Internal 32 Battery	(1) EBM 64	(2) EBM 64	(3) EBM 64	(4) EBM 64	UPS + Internal 64 Battery	(1) EBM 96	(2) EBM 96	(3) EBM 96
15000	13500	4.6	23.0	43.0	65.1	88.6	13.3	43.0	76.7	113
14500	13050	4.9	24.1	45.2	68.3	93.0	14.1	45.2	80.5	119
14000	12600	5.2	25.2	47.3	71.5	97.4	14.9	47.3	84.2	125
13500	12150	5.5	26.4	49.4	74.7	102	15.8	49.4	88.1	130
13000	11700	5.8	27.6	51.6	78.1	106	16.7	51.6	92.0	136
12500	11250	6.1	28.8	54.0	81.6	111	17.6	54.0	96.2	142
12000	10800	6.5	30.2	56.5	85.5	116	18.6	56.5	101	149
11500	10350	6.9	31.6	59.3	89.7	122	19.2	59.3	106	156
11000	9900	7.3	33.3	62.4	94.4	129	20.2	62.4	111	164
10500	9450	7.8	35.1	65.9	99.6	136	21.4	65.9	117	174
10000	9000	8.4	37.2	69.8	106	144	22.6	69.8	124	184
9500	8550	9.1	39.6	74.2	112	153	24.1	74.2	132	196
9000	8100	9.9	42.3	79.4	120	163	25.7	79.4	141	209
8500	7650	10.8	45.5	85.2	129	175	27.6	85.2	152	225
8000	7200	11.9	49.1	91.9	139	189	29.8	91.9	164	242
7500	6750	13.1	53.2	99.7	151	205	32.3	99.7	178	263
7000	6300	14.6	58.0	109	164	224	35.2	109	194	286
6500	5850	16.3	63.5	119	180	245	38.6	119	212	314
6000	5400	18.4	70.0	131	198	270	42.5	131	234	346
5500	4950	20.1	77.6	145	220	300	47.2	145	259	383
5000	4500	22.4	86.6	162	245	334	52.6	162	289	428
4500	4050	25.2	97.4	182	276	376	59.2	182	325	-
4000	3600	28.6	110	207	313	426	67.1	207	369	-
3500	3150	32.8	127	238	359	-	77.0	238	423	-
3000	2700	38.3	148	277	418	-	89.7	277	-	-
2500	2250	45.6	176	329	-	-	107	329	-	-

POWERWARE 20-30 KVA UPS BACKUP TIMES (IN MINUTES)

VA	Watt	UPS + Internal 1 Battery	Internal Battery + EBC - 36	Internal Battery + (1) EBC - 72	Internal Battery + (2) EBC-72
30000	27000	11	31	56	89
29000	26100	11	33	58	90
28000	25200	12	35	60	93
27000	24300	12	38	62	95
26000	23400	13	40	65	98
25000	22500	14	43	68	101
24000	21600	14	46	71	103
23000	20700	15	48	74	106
22000	19800	16	51	76	109
21000	18900	17	53	79	111
20000	18000	18	56	82	114
19000	17100	19	58	85	117
18000	16200	20	62	88	120
17000	15300	22	66	92	130
16000	14400	24	71	96	142
15000	13500	26	75	101	154
14000	12600	28	79	105	166
13000	11700	31	84	110	178
12000	10800	35	88	114	201
11000	9900	38	94	119	256
10000	9000	42	101	134	251
7500	6750	58	117	188	347
5000	4500	90	188	294	543

Note: Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

SERVICE PLAN CHART

Features	PowerTrust™ Service Plan	PowerTrust Value Service Plan
Contract Features		
7x24 Corrective Maintenance	Yes	No (5x8)
Standard Eight-hour Response	Yes	No
Optional Four-hour Response	Optional	No
Optional Two-hour Response	Optional	No
Preventive		
7x24 UPS Preventive Maintenance Site Visit	Optional	Optional
5x8 UPS Preventive Maintenance Site Visit	1x per year	1x per year
7x24 Battery Preventive Maintenance Site Visit	Optional	Optional
5x8 Battery Preventive Maintenance Site Visit	1x per year	Optional
Remote Monitoring		
eNotify Remote Monitoring (Web/SNMP & e-mail)	Yes	Yes
Advance Response Remote Monitoring Service (modem)	No	No
Monthly Monitoring Summary Report	Yes	Yes
Web access to account and service site history information	Yes	Yes
Contact Features		
7x24 Customer Reliability Center triage dispatch and monitoring	Yes	Yes
7x24 technical support access	Yes	Yes
Service priority status	Yes	Yes
Annual Power Protective Audit	Yes	No
Discounted spare part kits and upgrades	15%	0%
Discounted time and material services	0%	0%

ACCESSORIES

Order Number	Description	Dimensions H x W x D (in)	Unit Weight (lb)
Powerware Hot Sync			
124100020-001	Powerware 9355 10/15 kVA Parallel Cabinet	36 x 20 x 5.7	66
124100026-001	Powerware 9355 20/30 kVA Parallel Cabinet	48 x 20 x 5.7	75

Notes: Up to four Powerware 9355 UPSs can be paralleled with the Parallel Cabinet. Each Powerware 9355 UPS must have a Powerware Hot Sync CAN Bridge Card installed in the second X-Slot communication bay.

Extended Battery Module (EBM) or Cabinets (EBC)			
103004192-5501	Powerware 9355 EBM 64 (2-high)	32.2 x 12.0 x 30.2	480
103004193-5501	Powerware 9355 EBM 96 (3-high)	47.8 x 12.0 x 30.2	710
103005183	Powerware 9355 20/30 kVA EBC-36	66 x 20 x 31	1100
103004868	Powerware 9355 20/30 kVA EBC-72	66 x 20 x 31	2060

Notes: up to four EBM 64 cabinets or three EBM 96 cabinets can be added to each 8-15 kVA UPS for extended runtime.

Seismic Mounting Kit			
103004194-5501	Seismic Kit, Rated Zone 4, UL Tested, Performance rating based on NEBS GR-63-CORE Standard Vibration Test	Fits both 2- & 3-high models	136
103004896	Seismic Kit, Rated Zone 4, for 20 and 30 kVA	—	50
Maintenance Bypass Module (MBM)			
124100020-001	Wall-mounted Maintenance Bypass Module* for Powerware 9355 10/15 kVA	36 x 20 x 5.7	66
124100026-001	Wall-mounted Maintenance Bypass Module* for Powerware 9355 20/30 kVA	48 x 20 x 5.7	75

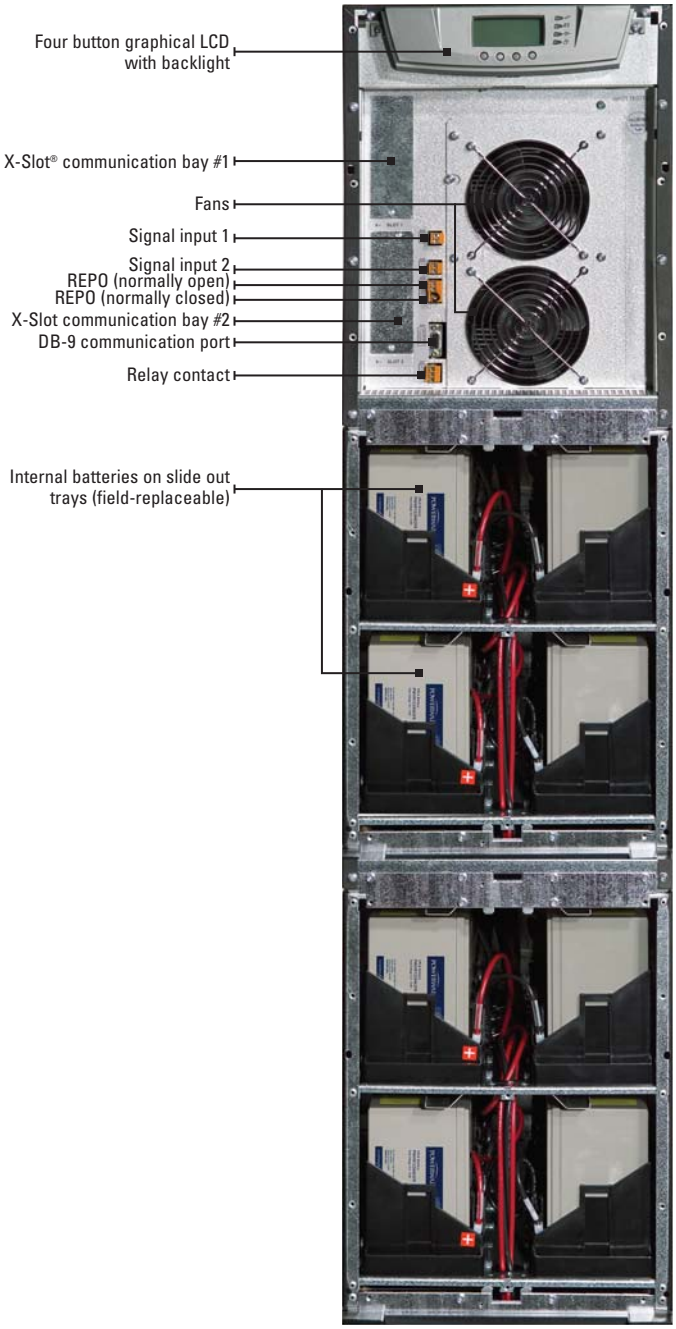
* Also functions as parallel tie cabinet

Connectivity Options	
103002974-5501	ConnectUPS-X Web/SNMP Card
103002510-5501	Modbus Card
05146508-5501	USB Card
1018460	Relay Interface Card (AS/400 Compatible)
103003055	Industrial Relay Card
103003637-5501	Environmental Monitoring Probe (requires ConnectUPS Web/SNMP Card)
Spare Parts	
106711169	Powerware 9355 10-15 kVA Spare Parts Kit "A"
106711170	Powerware 9355 20-30 kVA Spare Parts Kit "A"
Upgrades*	
103004657	Powerware 9355 10 kVA to Powerware 9355 15 kVA
103005160	Powerware 9355 20 kVA to Powerware 9355 30 kVA

Power Distribution Module (PDM) with Mechanical Bypass Switch

Optional Receptacle Panels	Breaker	Voltage	Phase(s)
(1) L15-30R	30A	208V	3
(1) L21-20R	20A	208/120V	3
(1) L21-30R	30A	208/120V	3
(2) 5-15R	15A	120V	1
(2) 5-20R	20A	120V	1
(2) 6-15R	15A	208V	2
(2) 6-20R	20A	208V	2
(2) L5-15R	15A	120V	1
(1) L5-20R[1]	20A	120V	1
(1) L5-30R[1]	30A	120V	1
(2) L6-15R	15A	208V	2
(1) L6-20R[1]	20A	208V	2
(1) L6-30R[1]	30A	208V	2
(1) L14-20R[1]	20A	120/208V	2
(1) L14-30R[1]	30A	120/208V	2
(2) IEC 320 C13 (120V)	20A	120V	1
(2) IEC 320 C19 (120V)	20A	120V	1
Blank panel	-	-	-

Note: Maximum of four panels per PDM (Powerware 9355). Output receptacle panels not available on 20 and 30 kVA.
* Order through local service office.

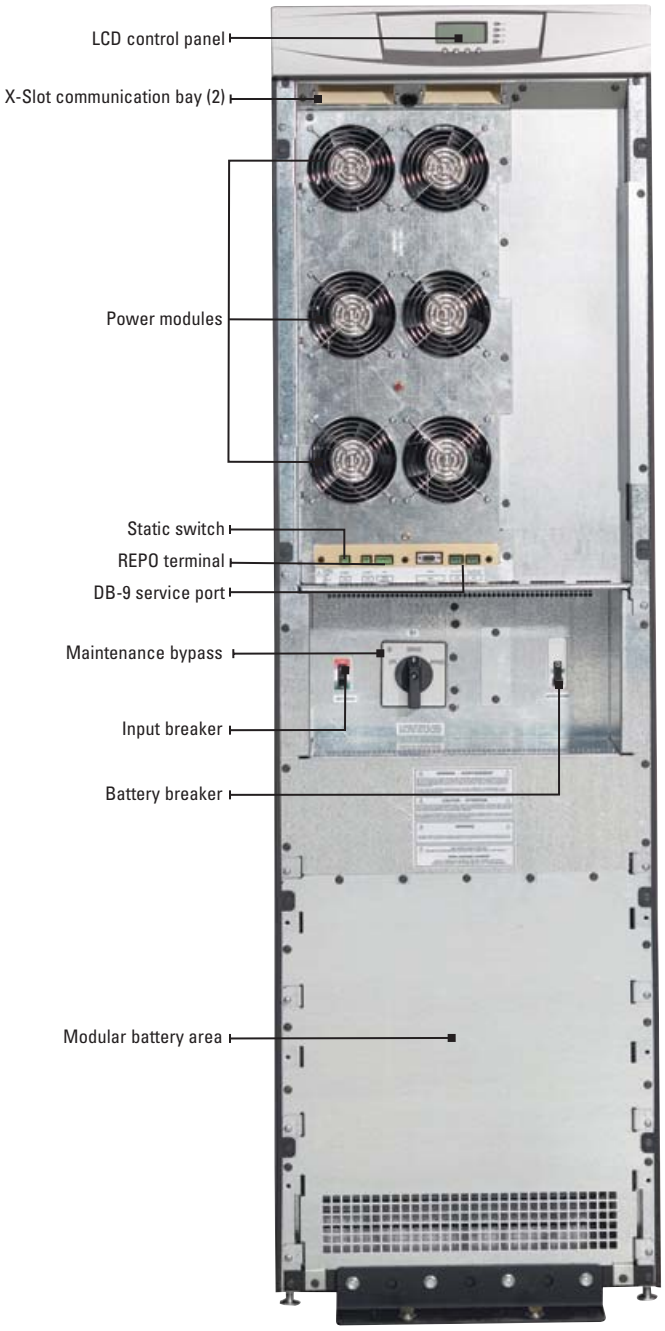


Front view of three-high module with cover off

TECHNICAL SPECIFICATIONS FOR 10 AND 15 KVA

Power	
Ratings (kVA/Watts)	10 and 15 kVA at 0.9 power factor
Topology	True double-conversion online UPS
Electrical input	
Nominal input voltage	208V/120V or 220V/127V three-phase
Input voltage range	-15%, +10% from nominal at 100% load without depleting battery
Operating frequency	50/60 Hz (45 to 65 Hz)
Input power factor	P.F >0.99 typical, >0.96 frequency converter
Input current distortion	5% THD
Electrical output	
Nominal output voltage	208/120, 220/127 Vac
Output voltage regulation	±1% static; ±5% dynamic at 100% resistive load change, <1 ms response time
Efficiency	91% typical
Battery	
Battery type	9Ah, sealed, lead-acid, maintenance-free
Battery runtime	See Battery Runtime Chart
Battery replacement	Field-replaceable
Charger	Default is 3.4A per battery string. Charger current is configurable from 0.5A to 25A per string with an overall maximum of 34A (limited by input current)
Start-on-battery	Allows start of UPS without utility input
General	
Diagnostics	Full system self-test at startup
UPS bypass	Automatic on overload or UPS failure
Parallel for redundancy and capacity	Yes, using Powerware Hot Sync technology
Dimensions and weights	See Model Selection Table
Overload (normal operation)	150% for 5 sec / 125% for 1 min (online), 110% for 10 min
Communications	
LCD display	Graphical LCD with blue backlight
LEDs	(4) LEDs for notice and alarm
Audible alarms	Yes
Communication ports	(1) RS-232, (1) relay contact, (1) REPO, (2) environmental input
Communication slot	(2) X-Slot communication bays
Power management software	Bundled Software Suite CD
Environmental	
Operating temperature	10ºC to +40ºC, +45ºC with 7.5% derating; batteries recommended max. +25ºC
Storage temperature	-15ºC to +25ºC
Relative humidity	0–95%, non-condensing
Audible noise	Audible noise: < 56 dBA at 1 meter (noise less room) typical
Altitude	< 3000m
Certifications	
Safety certifications	IEC 62040-1-1, IEC 60950, EN 62040-1-1, UL 1778
EMC compliance	EN 50091-2 Class A
Quality	ISO 9001: 2000 and ISO 14001:1996
Markings	UL, cUL

1. Due to continuous product improvements, program specifications are subject to change without notice.



20/30 kVA UPS

TECHNICAL SPECIFICATIONS FOR 20 AND 30 KVA

Power	
Ratings (kVA/Watts)	20 kVA/18 kW and 30 kVA/27 kW 0.9 power factor
Electrical input	
Nominal input voltage	208V/120V, 220V/127V+10, -15% 480V/277V, 600V (480+600 with transformer)
Operating frequency	50/60 Hz (45 to 65 Hz)
Input power factor	0.99 typical
Input current distortion	<5% THD
Electrical output	
Nominal output voltage	208/120, 220/120 Vac 480/227 with output transformer
Output voltage regulation	±1% static; ±4% dynamic with 100% step load recovery within 1 ms response time
Efficiency	91% typical
Battery	
Battery type	9Ah, sealed, lead-acid, maintenance-free
Battery runtime	See Battery Runtime Chart
Battery replacement	Field-replaceable
Charger	Default is 8A
Start-on-battery	Allows start of UPS without utility input
General	
Diagnostics	Full system self-test at startup
UPS bypass	Automatic on overload or UPS failure
Parallel for redundancy and capacity	Yes, using Powerware Hot Sync technology
Dimensions and weights	See Model Selection Table
Overload	150% for 5 sec / 125% for 1 min (online), 110% for 10 min
Communications	
LCD display	Graphical LCD with blue backlight
LEDs	(4) LEDs for notice and alarm
Audible alarms	Yes
Communication ports	(1) RS-232, (1) relay contact, (1) REPO, (2) environmental input
Communication slot	(2) X-Slot communication bays
Power management software	Bundled Software Suite CD
Environmental	
Operating temperature	10ºC to +40ºC, +45ºC with 7.5% derating; batteries recommended max. +25ºC
Storage temperature	-15ºC to +25ºC
Relative humidity	0–95%, non-condensing
Audible noise	Audible noise: < 58 dBA at 1 meter depending on load
Altitude	< 3000m
Certifications	
Safety certifications	IEC 62040-1-1, IEC 60950, EN 62040-1-1, UL 1778, NOM-0190SCP8-1993
EMC compliance	EN 50091-2 Class A
Quality	ISO 9001: 2000 and ISO 14001:1996
Markings	UL, cUL, NOM-NYCE

1. Due to continuous product improvements, program specifications are subject to change without notice.

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