Powerware series 10-30 kVA

Eaton 9355 UPS

Scalable. Compact. Flexible.

Powering Business Worldwide

Agility, scalability and space efficiency – with greater standard runtime

The Eaton® 9355 is a mid-size, three-phase uninterruptible power system (UPS) that delivers superior power protection for the ever-expanding loads in today's space-constrained data centers.

The double-conversion topology of the 9355 means that it protects IT infrastructure from all of the most common power problems to give data center managers greater peace of mind. The 9355 also offers an industry-leading combination of flexibility, scalability and power density—all in an innovative, high-efficiency package.

The 9355's sleek, end-of-row tower design is available in 10 kVA and 20 kVA configurations, upgradeable to 15 kVA and 30 kVA, respectively, and offers the smallest footprint of any comparable UPS. Standard internal batteries often eliminate the need for costly and space-consuming external battery cabinets.

An on-board power distribution module gives data center managers additional flexibility by helping to preserve valuable rack space and making the rack-based environment truly plug and play. This module can be configured for hardwired output or with a variety of output receptacles, reducing site preparation and installation expenses.

Up to four 9355 UPSs can be paralleled for either redundancy or extra capacity using Eaton's patented Powerware® Hot Sync® paralleling technology. Powerware Hot Sync also enables wireless paralleling in the event of a communications failure, providing the industry's only truly redundant paralleling solution.

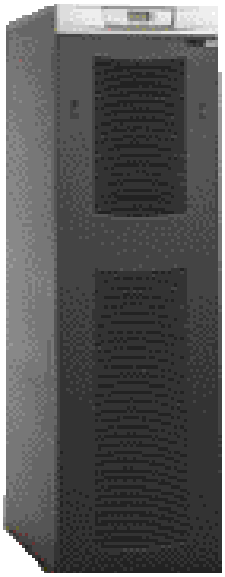
The 9355's space-efficient design and outstanding performance and reliability make it perfect for corporate, telecom, healthcare, banking, industrial and retail applications. Combined with Eaton's world-class warranty and service plans, expert technical support, and broad selection of options—and backed by 40 years of R&D excellence—the 9355 is the ideal power protection solution for small data centers.

Product snapshot

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

10 kVA

15 kVA



20 kVA

30 kVA

Premium power protection

With the 9355 UPS, data center managers can safely eliminate the effects of electrical line disturbances and guard the integrity of their systems and equipment. The 9355 is a true double-conversion, three-phase system that can be used to prevent loss of valuable electronic information and minimize equipment downtime.

- The 9355 continually monitors incoming electrical power and removes the surges, spikes, sags, and other irregularities that are inherent in commercial utility power
- Working with a building's electrical system, the 9355 supplies the clean, consistent power required by sensitive electronic equipment for reliable operation
- During brownouts, blackouts, and other power interruptions, internal batteries provide emergency power to safeguard operation

Self-diagnosis

The 9355 constantly monitors its own operation —such as voltage, temperature and function of internal components—and sends an alarm or takes action if it detects a potential problem.

Self-correction

If it senses a problem, the 9355 instantly transfers the power path to a bypass source with zero interruption in power. When the alarm condition passes, the 9355 automatically reverts from bypass to normal power.

The 9355 UPS features a four-button graphical LCD that provides useful information such as load status, events, measurements and settings.

Advanced battery management

The 9355 UPS offers innovative technologies to maximize the health and service life of its internal and external batteries:

- ABM technology uses a unique three-stage charging technique that significantly extends battery service life and optimizes recharge time when 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

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

Green power performance

The 9355 delivers a robust combination of low input current distortion and high power factor for maximum efficiency. Operating at greater than 90 percent efficiency across all load ranges, the 9355 helps to reduce utility costs, extend battery runtimes and produce cooler operating conditions.

In addition, Eaton's use of sustainable materials and highly efficient manufacturing technology results in dramatic savings in carbon footprint as compared to competitive UPS products.

10 and 15 kVA Configurations

20 and 30 kVA Configurations

At 15 kVA, the 9355 occupies

70% less footprint

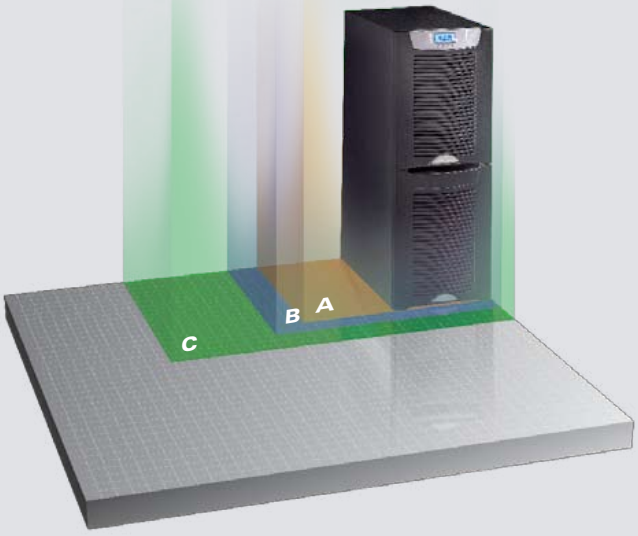
than competitor C

At 20 kVA, the 9355 occupies

48% less footprint

and delivers over three times the battery runtime

10 and 15 kVA Configurations



20 and 30 kVA Configurations

	Dimensions (inches)			Footprint (square inches)	Battery Runtime (minutes)	
	W	D	H		10 kVA	15 kVA
9355	**12**	**34**	**32**	**408**	**9**	**5**
Competitor A	21	33	59	693	5	5
Competitor B	24	36	82	864	5	5
Competitor C	33	40	63	1320	5	5

	Dimensions (inches)			Footprint (square inches)	Battery Runtime (minutes)	
	W	D	H		20 kVA	30 kVA
9355	**20**	**34**	**66**	**680**	**18**	**11**
Competitor A	21	33	59	693	5	5
Competitor B	24	36	82	864	5	5
Competitor C	33	40	63	1320	5	5

Options & service

Additional 9355 options

Options cabinets

For maximum flexibility, Eaton offers four options cabinet models for the following applications:

- Options cabinet with a maintenance bypass switch (MBS) that provides wrap-around bypass for UPS maintenance or service without shutting down the load
- Options cabinet with both MBS and input isolation transformer that allows operation from a 208V, 480V, or 600V 60-Hz source (input transformer in single-feed systems or bypass transformer in dual-feed systems)
- Options cabinet for dual-feed systems that provides a second input from a 208V, 480V, or 600V 60-Hz source
- Options cabinet with an output isolation transformer for 480V loads

Wall-mount maintenance bypass panels

Eaton offers a comprehensive line of optional wall-mounted maintenance bypass panels compatible with the 9355 UPS. The wall-mounted bypass panel is used to bypass the UPS during maintenance or servicing, providing wrap-around bypass for UPS service without shutting down the load. And for more flexible power distribution, these maintenance bypass panels can be equipped with surge protection and provisions for 36 poles of distribution utilizing Eaton's Cutler-Hammer® breakers.

Proven warranty and support services

Customers consistently rank Eaton services number one in quality. Eaton's comprehensive, world-class service solutions are designed to improve costs, uptime, reliability, power quality and safety. And with 240 customer service engineers in North America and 1,200 international authorized service providers, Eaton has more service personnel than any other UPS manufacturer.

The standard factory warranty covers:

- System warranty: One year parts / 90 days labor
- Battery warranty: Two years parts / 90 days labor

Extensive service options for enhanced reliability

For support beyond the warranty period, Eaton offers enhanced service options including onsite startup, corrective and preventive maintenance, battery solutions, training, remote monitoring and factory spare parts and upgrades. Customizable three-phase UPS services packages allow customers to select the plan that provides the right combination of system uptime, convenience and value.

Service Plans

Eaton 9355 UPS Service Plans	PowerTrust™ Value	ProActive	PowerTrust	PowerTrust Preferred	Flex Contracts
Parts and Labor for Electronics	●	●	●	●	
Parts and Labor for Batteries	○	○	○	○	
5x8 On-Site Corrective Maintenance	●				
7x24 On-Site Corrective Maintenance		●	●	●	
Next Business Day Response	●				Custom
Eight-Hour Response		●	●	●	Service
Four-Hour Response		○	○	○	Contracts
Two-Hour Response		○	○	○	
5x8 UPS Preventive Maintenance Visit	One per year	○	One per year		
7x24 UPS Preventive Maintenance Visit	○	One per year	○	Two per year	
Battery Preventive Maintenance Visit	○	○	One per year	Two per year	
eNotify Remote Monitoring Service	●	●	●	●	
Discounted Spare Parts Kit, T&M, and Upgrades		30%	30%	30%	

● Included feature

○ Optional

Model selection guide (10 and 15 kVA)

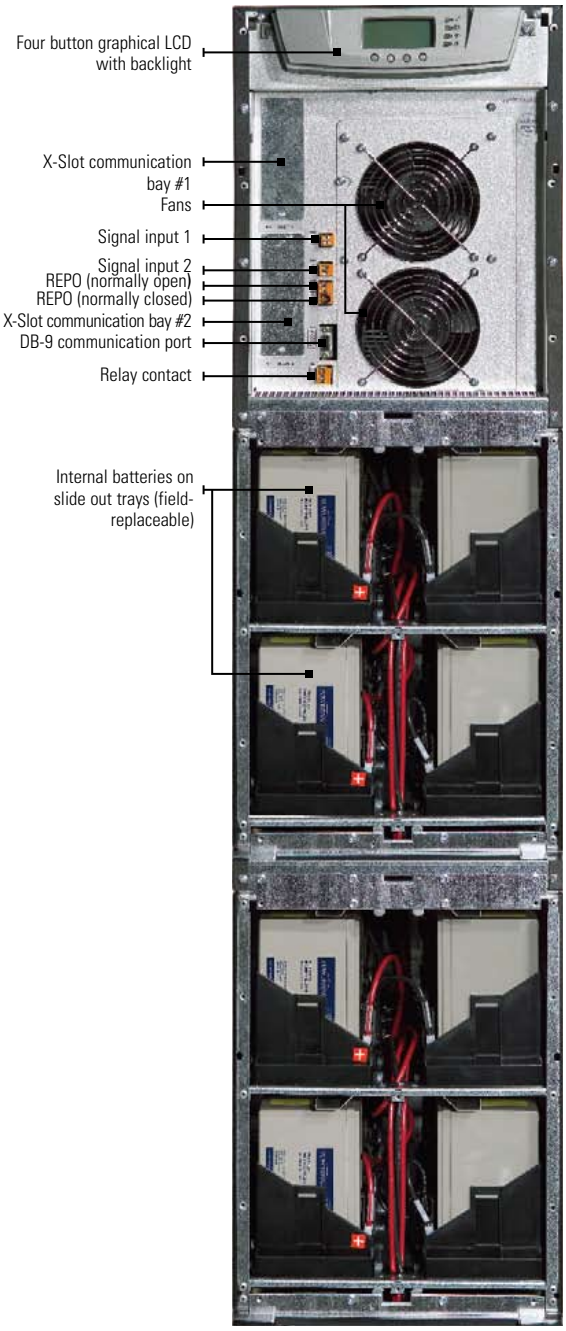
Power Rating (kVA/kW)[1]	Description	Input/Output Voltage	Part Number[2]	Base Runtime	Dimensions (HxWxD, in.)	Weight (lb.)[3]
10 / 9	2-high w/32 battery	208/208	KA1011100000010	8	32.2x12.0x33.5	373.0
10 / 9	3-high w/64 battery	208/208	KA1012100000010	22	47.8x12.0x33.5	609.0
10 / 9	2-high w/32 battery	220/220[4]	KA1011200000010	8	32.2x12.0x33.5	373.0
10 / 9	3-high w/64 battery	220/220[4]	KA1012200000010	22	47.8x12.0x33.5	609.0
10 / 9	3-high w/32 battery and input isolation transformer	480/208	KA1013400000010	8	47.8x12.0x33.5	577.0
10 / 9	3-high w/32 battery and input isolation transformer	600/208	KA1013600000010	8	47.8x12.0x33.5	577.0
15 / 13.5	2-high w/32 battery	208/208	KA1511100000010	4	32.2x12.0x33.5	373.0
15 / 13.5	3-high w/64 battery	208/208	KA1512100000010	13	47.8x12.0x33.5	609.0
15 / 13.5	2-high w/32 battery	220/220[4]	KA1511200000010	4	32.2x12.0x33.5	373.0
15 / 13.5	3-high w/64 battery	220/220[4]	KA1512200000010	13	47.8x12.0x33.5	609.0
15 / 13.5	3-high w/32 battery and input isolation transformer	480/208	KA1513400000010	4	47.8x12.0x33.5	577.0
15 / 13.5	3-high w/32 battery and input isolation transformer	600/208	KA1513600000010	4	47.8x12.0x33.5	577.0

1. 50/60 Hz auto-sensing.
2. An input neutral is required for all configurations unless the input isolation transformer is used. For parallel systems, change the fifth configure-to-order (CTO) digit to a 2 and include parallel tie cabinet.
3. Add 47 lb. for two-high configurations or 50 lb. for three-high configurations to determine shipping weight.
4. 220V units are wye connected 220/127V input and 220/127V output, three-phase, four-wire plus ground.

Model selection guide (20 and 30 kVA)

Power Rating (kVA/kW)[1]	Input/Output Voltage	Feed	UPS Part Number[2]	Options Cabinet(s)	Base Runtime[3]	Dimensions (HxWxD, in.)	Weight (lb.)[4]
20 / 18	208/208	Single	KB2013100000010	None	18	66.0 x 20.0 x 34.1	1160.0
20 / 18	208/208	Single[6]	KB2013100000010	KBT001100000010[5]	18	66.0 x 40.0 x 34.1	1695.0
20 / 18	208/208	Dual[6]	KB2013100000010	KBT001100000010 KBT002100000010[5]	18	66.0 x 60.0 x 34.1	2230.0
20 / 18	220/220[7]	Single	KB2013200000010	None	18	66.0 x 20.0 x 34.1	1160.0
20 / 18	480/208	Single	KB2013100000010	KBT001200000010[5]	18	66.0 x 40.0 x 34.1	1695.0
20 / 18	480/208	Dual	KB2013100000010	KBT002200000010 KBT001200000010[5]	18	66.0 x 60.0 x 34.1	2230.0
20 / 18	600/208	Single	KB2013100000010	KBT001300000010	18	66.0 x 40.0 x 34.1	1695.0
20 / 18	600/208	Dual	KB2013100000010	KBT001300000010[5] KBT002300000010	18	66.0 x 60.0 x 34.1	2230.0
20 / 18	480/480	Single	KB2013100000010	KBT001200000010[5] KBT003200000010	18	66.0 x 60.0 x 34.1	2230.0
30 / 27	208/208	Single	KB3013100000010	None	11	66.0 x 20.0 x 34.1	1160.0
30 / 27	208/208	Single[6]	KB3013100000010	KBT001100000010[5]	11	66.0 x 40.0 x 34.1	1695.0
30 / 27	208/208	Dual6	KB3013100000010	KBT001100000010[5] KBT002100000010	11	66.0 x 60.0 x 34.1	2230.0
30 / 27	220/220[7]	Single	KB3013200000010	None	11	66.0 x 20.0 x 34.1	1160.0
30 / 27	480/208	Single	KB3013100000010	KBT001200000010[5]	11	66.0 x 40.0 x 34.1	1695.0
30 / 27	480/208	Dual	KB3013100000010	KBT001200000010[5] KBT002200000010	11	66.0 x 60.0 x 34.1	2230.0
30 / 27	600/208	Single	KB3013100000010	KBT001300000010	11	66.0 x 40.0 x 34.1	1695.0
30 / 27	600/208	Dual	KB3013100000010	KBT001300000010[5] KBT002300000010	11	66.0 x 60.0 x 34.1	2230.0
30 / 27	480/480	Dual	KB3013100000010	KBT001200000010[5] KBT003200000010	11	66.0 x 60.0 x 34.1	2230.0

1. 50/60 Hz auto-sensing.
2. An input neutral is required for all configurations unless the input isolation transformer is used. For parallel systems, change the fifth CTO digit to a 2 and include parallel tie cabinet.
3. All models include internal batteries.
4. Add 50 lb. to determine shipping weight.
5. Contains on-board maintenance bypass.
6. With isolation transformer.
7. 220V units are wye connected 220/127V input and 220/127V output, three-phase, four-wire plus ground.



Front view of three-high module with cover off

Technical Specifications for 10 and 15 kVA[1]

Power	
Ratings (kVA/Watts)	10 kVA/9 kW and 15 kVA/13.5 kW at 0.9 power factor
Topology	Double conversion
Electrical input	
Nominal input voltage	208V/120V or 220V/127V three-phase 400V models also available
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	>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
Heat dissipation (BTU/hr)	*10 kVA models:* 3,798 @ 208V and 220V input 6,294 @ 480V and 600V (with input isolation transformer) *15 kVA models:* 5,122 @ 208V and 220V input 8,134 @ 480V and 600V (with input isolation transformer)
Battery	
Battery type	9 Ah, sealed, lead-acid, maintenance-free
Battery runtime	See battery backup time 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	Yes, using Powerware Hot Sync technology and capacity
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 slots	(2) X-Slot communication bays
Power management software	Bundled Software Suite CD
Environmental	
Operating temperature	50–104°F (10–40°C), 45°C with 7.5% derating; Optimal battery performance: 77°F (25°C)
Storage temperature	32–77°F (0–25°C); Recommended battery storage: 59–77°F (15–25°C)
Relative humidity	0–95%, non-condensing
Audible noise	< 56 dBA at 1 meter (noiseless room) typical
Altitude	9,843 ft. (3000m) without derating
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.

Power Distribution Module with Mechanical Bypass Switch
(10 and 15 kVA Models)

NEMA Output Receptacle(s)[1] Quantity	Breaker	Voltage (V)	Receptacle Code[2]	Phase(s)	Enter "Receptacle Code" into CTO Digits #
(1) L15-30R	30A	208	2	3	9, 10 or 11 only
(1) L21-20R	20A	208/120	3	3	9, 10 or 11 only
(1) L21-30R	30A	208/120	4	3	9, 10 or 11 only
(2) 5-15R	15A	120	A	1	9,10,11,12
(2) 5-20R UL	20A	120	B	1	9,10,11,12
(2) 6-15R	15A	208	D	2	9,10,11,12
(2) 6-20R	20A	208	E	2	9,10,11,12
(2) L5-15R	15A	120	F	1	9,10,11,12
(1) L5-20R*	20A	120	G	1	9,10,11,12
(1) L5-30R*	30A	120	H	1	9,10,11,12
(2) L6-15R	15A	208	I	2	9,10,11,12
(1) L6-20R*	20A	208	J	2	9,10,11,12
(1) L6-30R*	30A	208	K	2	9,10,11,12
(1) L14-20R*	20A	120/208	L	2	9,10,11,12
(1) L14-30R*	30A	120/208	M	2	9,10,11,12
Blank Panel	N/A	N/A	X	N/A	9,10,11,12
(2) IEC 320 C13 (120V)	20A	120	N	1	9,10,11,12
(2) IEC 320 C19 (120V)	20A	120	P	1	9,10,11,12

1. The combined quantities of LOCKING receptacles (denoted by *) must not exceed four per unit.1. Arrange receptacle codes in numerical-alphabetical order in digits 9 through 12 of the CTO number. Example 1: A PDM with an L21-20, an L14-30, and Qty 2 IEC320-C19 would have digits 9 through 12 of the CTO arranged as "3MPP". Example 2: A PDM with a 5-15R, and an L6-30 and an L14-30 would have digits 9 through 12 of the CTO arranged as "AKMX". Please be sure utilize the "X" designation for any of the four total slots not populated.

Options (10 and 15 kVA)

Description	Part Number	Input/Output Voltage (V)	Dimensions (H x W x D, inches)	Weight (lb)
Two-high line and match battery module (64 batteries)	103004192-5501	N/A	32.2 x 12 x 30.2	480
Three-high line and match battery module (96 batteries)	103004193-5501	N/A	47.8 x 12 x 30.2	710
Wall-mount parallel tie cabinet (2-Breaker MBP)[1, 3]	124100020-001	N/A	36 x 20 x 5.8	68
Wall-mount Remote EPO Switch	103002939	N/A	4.5 x 4.5 x 4.5	3
Zone 4 Seismic Mounting Kit	103004194-5501	N/A	-	-
Remote monitor display panel[2]	103002687-001	N/A	4.9 x 5.9 x 1.6	3
Spare parts kit	106711169	N/A	N/A	N/A
10 to15 kVA upgrade	103004657	N/A	N/A	N/A
Upgrade to a parallel UPS module three-breaker maintenance bypass panels	UP08N-PAR1	N/A	N/A	N/A
100A Bus, 200A Neutral, & 60A MBP, MIB, MIS[3]	124100027-001	208/208	48 x 20 x 5.8	120
With integral 120 KA TVSS (100A Bus, 200A Neutral, and 60A MBP, MIB, MIS)[3]	124100027-002	208/208	60 x 20 x 5.8	120
With 36-pole distribution provisions				
(Cutler-Hammer GHB 65 kAIC, or GBHW 22 kAIC and BAB 10 kAIC only)[3]	124100027-003	208/208	72 x 20 x 5.8	210
With 36-pole distribution provisions and integrated TVSS				
(Cutler-Hammer GHB 65 kAIC, GBHW 22 kAIC and BAB 10 kAIC only)[3]	124100027-004	208/208	90 x 20 x 5.8	225

1. 208V/208V input/output voltage. 225A bus, 200A neutral, (1) 225A MBP and (4) 80A MIS.
2. Requires Industrial Relay and Display Card. See X-Slot Connectivity
3. Add 40 lb. for shipping weight of panels and 50 lb. for panels with panelboard provisions.

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