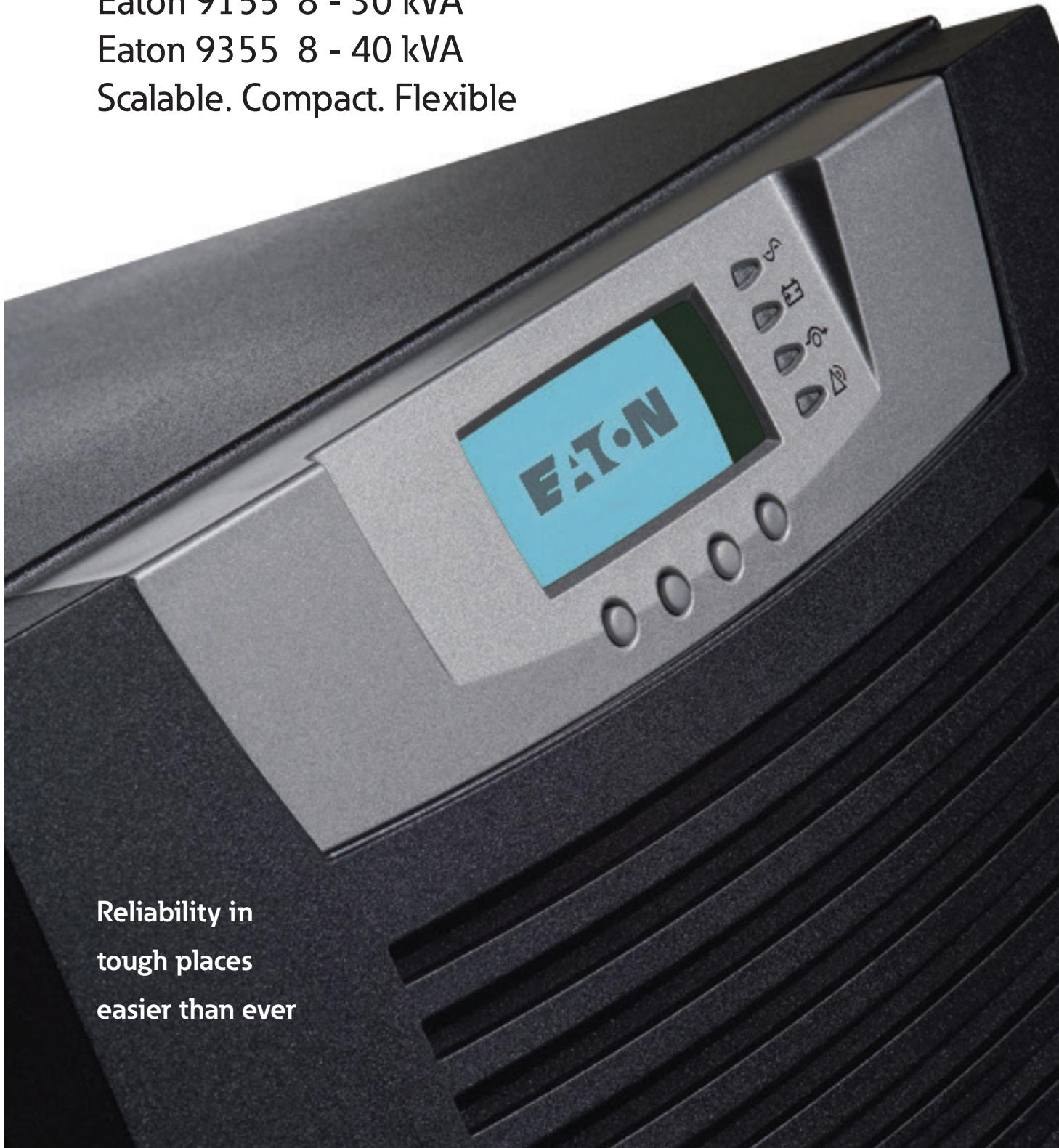


Eaton 9155 8 - 30 kVA

Eaton 9355 8 - 40 kVA

Scalable. Compact. Flexible



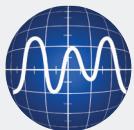
EATON

Powering Business Worldwide

The new Eaton 9155 and 9355, under the Powerware series, combine good looks with uncompromised efficiency and reliability. It provides an affordable solution for 24/7 power protection across a wide range of critical IT and electrical engineering applications. The 9155 and 9355 cover the power range 8–40 kVA and can be paralleled for redundancy and capacity using Eaton's patented Hot Sync® technology.



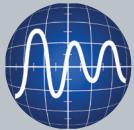
1. POWER FAILURE



2. POWER SAG



3. POWER SURGE



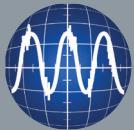
4. UNDERTENSION



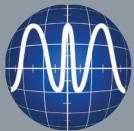
5. OVERVOLTAGE



6. SWITCHING TRANSIENT



7. LINE NOISE



8. FREQUENCY VARIATION



9. HARMONIC DISTORTION



Never before has a UPS been so powerful, yet so slim.

And never before has a UPS had such a combination of features and benefits.

Eaton 9155 and 9355 combine style and small footprint with high performance. With its elegant black casing and its fully graphic, blue backlit LCD display, its strikingly modern appearance sets it clearly apart from the computer-grey masses of older equipment usually found in offices and server rooms.

Reliable

But good looks are just the surface. The 9155 and 9355 are a Series 9 UPSs, meaning that they protect from all of the nine types of most common power disturbances.

Thanks to Eaton's patented Hot Sync technology, two or more UPS units can be paralleled to provide no compromise protection of the load even if one of the units is out

of commission for service. More than that, the 9155 and 9355's design incorporate well thoughtthrough solutions geared to keep their total life-cycle cost at the lowest possible level.

For example, they have up to 93% efficiency, provide 0.99 input power factor and are rated for 0.9 output power factor loads.

Easy to use

Floor space is expensive. That is why the 9155 and 9355 were designed in a slim, compact tower to provide maximum power per square metre. Their small footprint also means that you will be able to increase your UPS capacity considerably without expanding your present server room. Not to mention easier transport and installation.

Even the standard battery configuration provides integral 31 minutes of backup time (at 20 kVA computer load), and you can extend it to several hours by adding extra battery packs.

The fully graphic LCD display with blue backlight makes the 9155 and 9355 easy to control and monitor. For example, the inputs and outputs are configurable, enabling UPS customisation for the critical application.

With a bundled software suite and a wide range of communication options, the 9155 and 9355 are easy to run remotely using a variety of protocols.

The 9155 and 9355 offer you confidence that lets you stop worrying about power.

Eaton 9155 and 9355 feature inherent reliability. Only the most reliable hardware and technologies are used in their manufacture.

Key Applications:

INFORMATION TECHNOLOGY SOLUTIONS

- Data networks, particularly in areas with frequent mains disturbances
- Web server hotels
- Telecom applications
- Financial institutions

ELECTRICAL ENGINEERING SOLUTIONS

- Office buildings
- Manufacturing machinery
- Process control

Reliable hardware, software and world-class service

If your business or application depends on a continuous power supply, look at the Eaton 9155 and Eaton 9355. They will provide you with the most reliable and affordable power protection today, packed in an elegant casing.



Thanks to its new advanced rectifier technology, the 9155 and 9355 give you the best in input power factor control (0.99 PF). Through their low harmonics content (2-5% THDi), the 9155 and 9355 are extremely mainsfriendly.

Reliability is increased by advanced battery management functions such as ABM™ (Advanced Battery Management), automatic discharge testing and temperature compensated charging voltage. Together, they can increase

your battery lifetime considerably and will make sure your batteries — the most important component of the UPS — always remain in top condition!

Because the 9155 and 9355 come bundled with a software suite, you have total control over the system. The software package includes shutdown software, basic-level monitoring and integrates your UPS to your data network.

No mechanical device will run forever without servicing. That is why Eaton offers you additional peace of mind through a range of service agreement options that can easily be customised to your needs and budget. Your Eaton representative will be happy to tell you more.

EATON 9155 AND EATON 9355

Feature	Benefit
Double conversion topology	Trouble-free output. Solution for critical 24/7 applications. Zero-break thyristor transfer to bypass for fault clearing.
Input power factor control (PFC)	Active 0.99 input power factor control leading to low current distortion in the input. Network friendly and reduces harmonics up to 5% THDi level.
Hot Sync®	Patented paralleling technology requires no communication modules, eliminating a system-level single point of failure.
Advanced Battery Management (ABM™)	Reduced battery corrosion resulting significantly longer battery lifetime.
Self-diagnostics	No unexpected failures. Digital DSP technology constantly monitors internal UPS operation.
High output power factor rating	0.9 output power factor is suitable for today's PFC computer and server loads.
Communication options	Wide range of options for network and building management uses, selectable Web/SNMP or ModBus/Jbus as needed.

Highlights that (almost) let you forget about power

Active power factor control for less disturbances in low-voltage networks

Thanks to their cutting-edge active-front rectifier, the 9155 and 9355 provide a perfect sine-wave input and 0.99 input power factor. This means that they avoid disturbances in the feeding mains network that energy converters tend to cause. With minimal current distortion (2-5% THDi) the 9155 and 9355 are extremely "mains-friendly" and do not require special harmonics filtering.

Hot Sync—unbreakable security

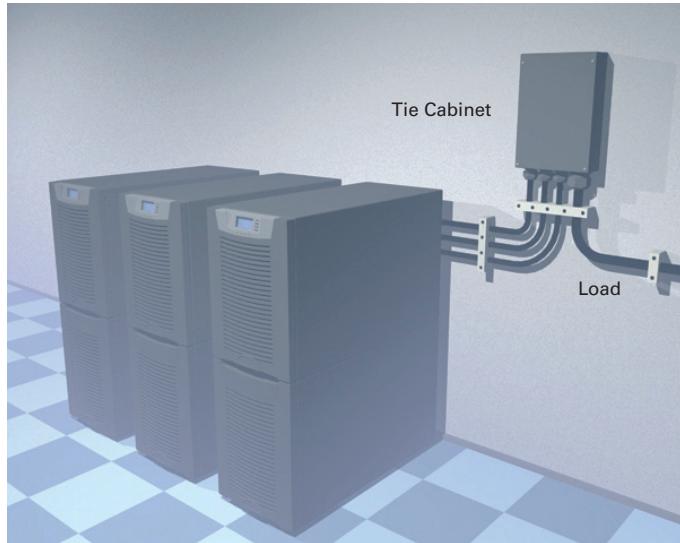
Hot Sync parallels two or more UPS units. Units are capable of load sharing without the need for communications wiring, hitherto the most vulnerable point of failure in all UPS systems. Each module has the ability to synchronise and support the critical load independently of the other modules. Thus all critical loads are supported by UPS-grade power, whatever maintenance needs—scheduled or unscheduled—should arise.

Hot Sync—redundant is an N+1 module system allowing full maintenance to be performed on all modules and the parallel cabinet without the need for an external maintenance bypass and without having to remove the critical load from conditioned power.

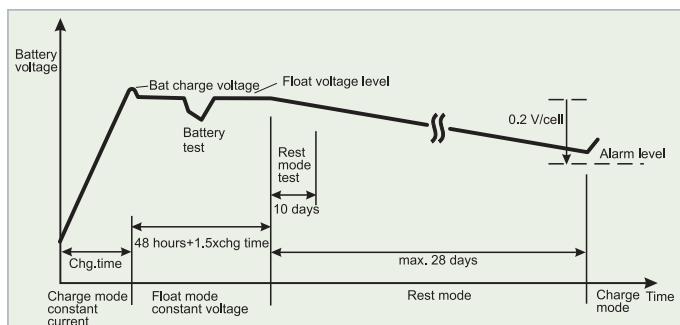
ABM—significantly more battery life

ABM constantly monitors battery charge status and only recharges when necessary. Compared with the traditional trickle charging method, this reduces battery corrosion enough to provide significantly longer battery lifetimes! ABM compensates for changes in ambient temperature for proper charging.

Battery monitoring provides real-time information on battery string health and remaining runtime. This allows you to proactively plan maintenance operations instead of reacting to emerging problems. UPS tests the batteries regularly with the rectifier connected, thus providing consistent test results regardless of inverter load at testing time. Moreover, as the load is never supported by the battery alone, the UPS will keep your critical load adequately protected at all times.



Hot Sync Redundant / Capacity



Battery voltage during one ABM charging cycle

Extensive configurability and options

Enhanced communication capabilities

The 9155/9355 UPS is equipped with a variety of standard communications features for network connectivity and remote management applications, including:

- RS-232 serial port
- Two X-Slot® communication bays
- Relay output contacts
- Two programmable signal inputs
- Remote emergency power-off (REPO)

Easy network connectivity and monitoring

Eaton PowerXpert Gateway UPS card

Eaton PowerXpert Gateway UPS card connects the 9155/9355 directly to an Ethernet network and the Internet and enables graceful shutdown of multiple computers over the network. The Eaton PowerXpert Gateway UPS card also features a Modbus TCP/IP and SNMP v3 support.



Eaton Power Xpert Gateway UPS card



Environmental Monitoring Probe

Environmental Monitoring Probe

The Environmental Monitoring Probe (EMP) works with the 9155/9355 and ConnectUPS-X card to remotely monitor the ambient temperature and relative humidity of the remote environment. The EMP can also be configured to provide the status of two additional contact devices such as smoke detectors or open-door sensors.

Modbus® card

The Modbus card is an X-Slot device that allows continuous, realtime monitoring of the 9155/9355 through a Building Management System (BMS) or industrial automation system.



Relay Interface cards

Relay interface card

The X-Slot relay interface card provides four programmable isolated dry contact Form-C relay outputs (default setting: utility failure, low battery, UPS alarm/OK, on bypass) and one input.



ViewUPS-X

ViewUPS-X remote display is an LCD panel that lets users view the status of the UPS from as far as 100m (standard 10m). ViewUPS-X has also four status LEDs and an alarm sound. The display is bundled with a dedicated X-Slot card that also powers the display through the communication cable. In addition to the remote display connection, the card has also a SELV isolated relay port for connection to monitoring systems and AS/400 computers.

P/N 1027020 for 9155, 9355, 9390, 9395 and BladeUPS

NetWatch is a shutdown agent for the ConnectUPS Web/SNMP card. It is a very compact piece of software, but still features powerful configuration options for shutdown actions, timings and user notification.



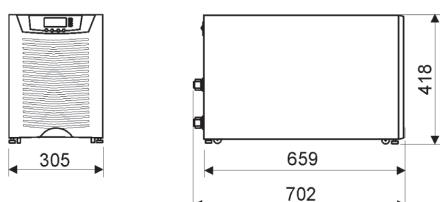
Intelligent Power Manager

Intelligent Power Manager is a software tool for managing networked UPS and PDU systems more easily and at lower cost than the major NMS platforms, and is dedicated to power management functions. Administrators have an overall, consolidated view of the main operating parameters of all UPS systems. The web-based interface is intuitive and easy to use, while also offering high configurability and powerful features.

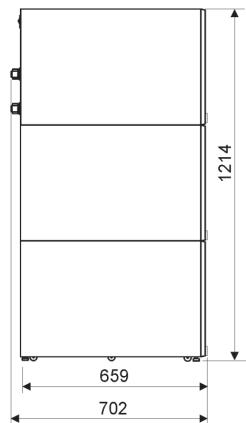
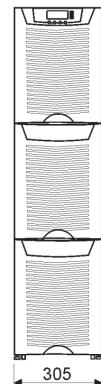
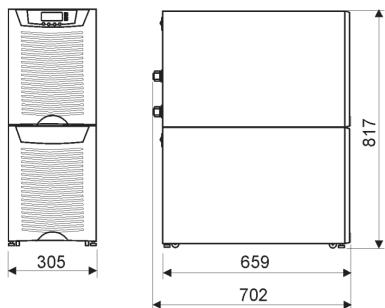
Intelligent Power Manager centralises alarm management. It can collate several events into a single message and deliver the message via email or SMS. Intelligent Power Manager is very easy and fast to install. Once running, the software discovers manageable power devices automatically and is operational in just a few seconds. A version of Intelligent Power Manager limited to 10 monitored devices is available free with each networked Eaton UPS.

Dimensions

8–15 kVA

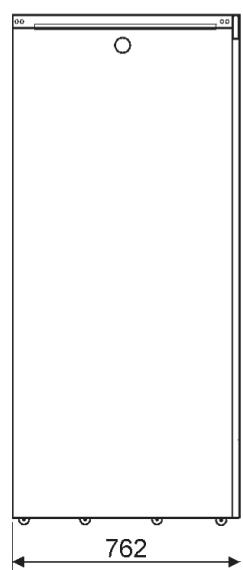
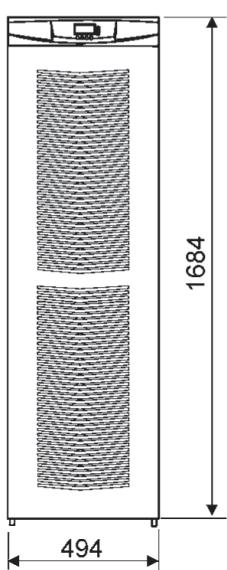


UPSs models with no battery sections



UPSs models with (1) and (2) battery bottom sections sections

20–40 kVA



Dimensions of the UPS cabinet

TECHNICAL SPECIFICATIONS

UPS output power rating (0.9 p.f.)				Output	
kVA	8	10	12	15	Output UTHD <3% (100% linear load); <5% (reference non- linear load)
kW	7.2	9	10.8	13.5	Output power factor 0,9 (e.g. 9 kW at 10 kVA)
General				Permitted load power factor	0.7 lagging - 0.8 leading
Efficiency in double-conversion mode (full load)	92%			Overload on inverter	10 min 100-110%; 1 min 110-125%; 5 sec 125-150%; 300 ms >150%
Efficiency in double-conversion mode (half load)	90%			Overload when bypass available	60 min 100-110%, 10 min 110-125%; 1 min >125-150%
Efficiency in high efficiency mode	Up to 98%			Battery	
Distributed paralleling with Hot Sync technology	4			Type	Maintenance-free VRLA batteries, NiCd
Field upgradeable	Yes			Charging method	ABM technology or Float
Inverter/rectifier topology	Transformer-free IGBT with PWM			Temperature compensation	Optional
Audible noise	<50 dB(A) ISO 7779			Battery nominal voltage (lead-acid)	384 V (32x12 V, 192 cells)
Altitude (max)	1000 m without derating (max 2000 m)			Charging current / Model	Default 3 A *Max 30 A
Input				*May be limited by maximum UPS input current rating	
Input wiring	1 ph or 3 ph + N + PE			Accessories	
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz			X-Slot connectivity (Web/SNMP, ModBus/Jbus, Relay, Hot Sync, ViewUPS-X remote display), integrated manual bypass	
Input voltage range	Low -20% at 100% load/-50% at 50% load without battery discharge; High +10%/max +20%			Communications	
Input frequency range	45-65 Hz			X-Slot	2 communication bays
Input power factor	0.99			Serial ports	1 available
Input ITHD	Less than 4.5%			Relay inputs/outputs	2/1 programmable
Soft start capability	Yes			Compliance with standards	
Internal backfeed protection	Yes			Safety (CB certified)	IEC 62040-1, IEC 60950-1
Output				EMC	IEC 62040-2 Class A
Output wiring	1 ph or 3 ph + N + PE			Performance	IEC 62040-3
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz				

Stand-alone UPS with 1-phase input

Part number	Description	Rating	Back-up (p.f. 0.7)	Dimensions (HxWxD)	Weight
1022533	9155-8-S-15-32x9Ah	8 kVA / 7.2 kW	15 min	817x305x702 mm	160 kg
1022535	9155-8-S-33-64x9Ah	8 kVA / 7.2 kW	33 min	1214x305x702 mm	275 kg
1022536	9155-10-S-10-32x9Ah	10 kVA / 9 kW	10 min	817x305x702 mm	160 kg
1022538	9155-10-S-25-64x9Ah	10 kVA / 9 kW	25 min	1214x305x702 mm	275 kg

Stand-alone UPS with 3-phase input

Part number 9155/9355	Description	Rating	Back-up (p.f. 0.7)	Dimensions (HxWxD)	Weight
1022481/1023411	9155/9355-8-N-15-32x9Ah	8 kVA / 7.2 kW	15 min	817x305x702 mm	160 kg
1022483/1023412	9155/9355-8-N-33-64x9Ah	8 kVA / 7.2 kW	33 min	1214x305x702 mm	275 kg
1022484/1023413	9155/9355-10-N-10-32x9Ah	10 kVA / 9 kW	10 min	817x305x702 mm	160 kg
1022486/1023414	9155/9355-10-N-25-64x9Ah	10 kVA / 9 kW	25 min	1214x305x702 mm	275 kg
1022487/1023415	9155/9355-12-N-8-32x9Ah	12 kVA / 10.8 kW	8 min	817x305x702 mm	160 kg
1022489/1023416	9155/9355-12-N-20-64x9Ah	12 kVA / 10.8 kW	20 min	1214x305x702 mm	275 kg
1022490/1023417	9155/9355-15-N-5-32x9Ah	15 kVA / 13.5 kW	5 min	817x305x702 mm	160 kg
1022492/1023418	9155/9355-15-N-15-64x9Ah	15 kVA / 13.5 kW	15 min	1214x305x702 mm	275 kg

External battery cabinets

Part number	Description	Rating	Back-up (p.f. 0.7)	Dimensions (HxWxD)	Weight
1022561	9X55-BAT5-64x7Ah	2x32x7 Ah	Check technical specifications	817x305x699 mm	195 kg
1022562	9X55-BAT5-96x7Ah	3x32x7 Ah		1214x305x699 mm	310 kg

TECHNICAL SPECIFICATIONS

UPS output power rating (0.9 p.f.)			
kVA	20	30	40
kW	18	27	36
General			
Efficiency in double-conversion mode (full load)	93%		
Efficiency in double conversion mode (half load)	91%		
Distributed parallelling with Hot Sync technology	4		
Field upgradeable	Yes		
Inverter/rectifier topology	Transformer-free IGBT with PWM		
Audible noise	<53 dB (A) ISO 7779		
Altitude (max)	1000 m without derating (max 2000 m)		
Input			
Input wiring	3 ph + N + PE		
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz		
Input voltage range	Low -20% at 100% load/-50% at 50% load without battery discharge; High +10%/max +20%		
Input frequency range	45-65 Hz		
Input power factor	0.99		
Input ITHD	Less than 4.5%		
Soft start capability	Yes		
Internal backfeed protection	Yes		
Output			
Output wiring	1 ph or 3 ph + N + PE		
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz		

Output UTHD	<3% (100% linear load); <5% (reference non- linear load)
Output power factor	0,9 (e.g. 27 kW at 30 kVA)
Permitted load power factor	0,7 lagging - 0,8 leading
Overload on inverter	10 min 100-110%; 1 min 110-125%; 5 sec 125-150%; 300 ms >150%
Overload when bypass available	60 min 100-110%, 10 min 110-125%; 1 min >125-150%
Battery	
Type	Maintenance-free VRLA batteries, NiCd
Charging method	ABM technology or Float
Temperature compensation	Optional
Battery nominal voltage (lead-acid)	432 V (36x12 V, 216 cells)
Charging current / Model	Default 3 A *Max 60 A
*May be limited by maximum UPS input current rating	
Accessories	
IX-Slot connectivity (Web/SNMP, ModBus/Jbus, Relay, Hot Sync, ViewUPS-X remote display), integrated manual bypass	
Communications	
X-Slot	2 communication bays
Serial ports	1 available
Relay inputs/outputs	2/1 programmable
Compliance with standards	
Safety (CB certified)	IEC 62040-1, IEC 60950-1
EMC	IEC 62040-2 Class A
Performance	IEC 62040-3

Standard UPS with 3-phase input

Part number 9355	Description	Rating	Runtime (p.f 0.7)	Dimensions (HxWxD)	Weight
1025061/1026598	9355/9155-20-N-5-1x36x9Ah-MBS	20 kVA / 18 kW	5 min	1684x494x762 mm	300 kg
1025062/1026599	9355/9155-20-N-13-2x36x9Ah-MBS	20 kVA / 18 kW	13 min	1684x494x762 mm	400 kg
1025063/1026600	9355/9155-20-N-22-3x36x9Ah-MBS	20 kVA / 18 kW	22 min	1684x494x762 mm	500 kg
1025064/1026601	9355/9155-20-N-31-4x36x9Ah-MBS	20 kVA / 18 kW	31 min	1684x494x762 mm	600 kg
1025065/1026602	9355/9155-30-N-7-2x36x9Ah-MBS	30 kVA / 27 kW	7 min	1684x494x762 mm	400 kg
1025066/1026603	9355/9155-30-N-13-3x36x9Ah-MBS	30 kVA / 27 kW	13 min	1684x494x762 mm	500 kg
1025067/1026604	9355/9155-30-N-20-4x36x9Ah-MBS	30 kVA / 27 kW	20 min	1684x494x762 mm	600 kg
1025795	9355-40-N-8-3x36x9Ah-MBS	40 kVA / 36 kW	8 min	1684x494x762 mm	517 kg
1025796	9355-40-N-12-4x36x9Ah-MBS	40 kVA / 36 kW	12 min	1684x494x762 mm	617 kg

9355 20-40 kVA runtimes

Runtimes for UPS with internal batteries, p.f. 0.7 (typical IT server/computer load)

Battery	Qty	5	10	15	20	25	30	35	40	kVA
7 Ah 12 V	1 x 36	24	8	5	-	-	-	-	-	min
9 Ah 12 V	1 x 36	30	12	7	5	-	-	-	-	min
7 Ah 12 V	2 x 36	60	24	14	10	6	-	-	-	min
9 Ah 12 V	2 x 36	70	28	18	13	10	7	5	-	min
7 Ah 12 V	3 x 36	103	41	26	17	12	10	7	5	min
9 Ah 12 V	3 x 36	115	46	31	22	16	13	10	8	min
7 Ah 12 V	4 x 36	152	55	40	26	18	15	11	9	min
9 Ah 12 V	4 x 36	158	63	42	31	23	20	15	12	min

For assistance with your power quality needs, contact your local Eaton service and sales representatives.

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Powering Business Worldwide

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