Eaton 9390IT UPS

Product snapshot

Product rating: 40 -160 kVA

Form factor: End-of-row tower

Topology: Double conversion

Voltage: 208, 400V

Frequency: 55-65 Hz

Output: Integrated IT Distribution Sidecar

Batteries: Internal batteries available on 40 kVA

Efficiency: 99%

The 9390IT offers data centers and facilities greater flexibility and simplicity than ever before. Not available on competitive UPSs in this class, the 9390IT delivers simple plug-and-play power connections and expansion. Now data centers and facilities no longer need to hire expensive electricians when adding equipment racks or changing floor layouts. By simply plugging in a compatible extension cable and/or ePDU, new racks can be powered in a matter of minutes.

The 9390IT provides superior protection and efficiency through transformerless design and sophisticated sensing and control circuitry. The 9390IT delivers 99 percent efficiency, compared to 92 percent for the same-sized competitive UPS. The 9390IT also provides optimal efficiency across the UPS load range, meaning it maintains high efficiency down to the 20 percent load level. The 9390IT enables you to yield significant savings on day one, and not after years of expansion to full capacity.

9390IT Configurations

ESS
Energy Saver System

Energy Saver System Included

40 kVA*
(Parallel Capable)

40 kVA
with Internal Battery
(Parallel Capable)

40 kVA with Internal Battery
and Integrated IT Distribution

40-80 kVA
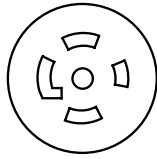**with IT Distribution***

120-160 kVA
with IT Distribution*

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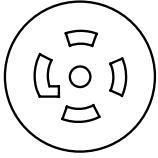
* These units require Extended Runtime Battery Cabinet

Available receptacle options

L6-30R

L21-30R

L22-30R

IEC309-60

IT distribution sidecar offers plug-and-play power distribution

9330IT UPSs feature an IT distribution sidecar which allows for power distribution directly from the UPS. The sidecar features an integrated maintenance bypass accessible from the front for easy maintenance and service. You can add racks and additional capacity without requiring an electrician to add a branch to an existing panelboard.
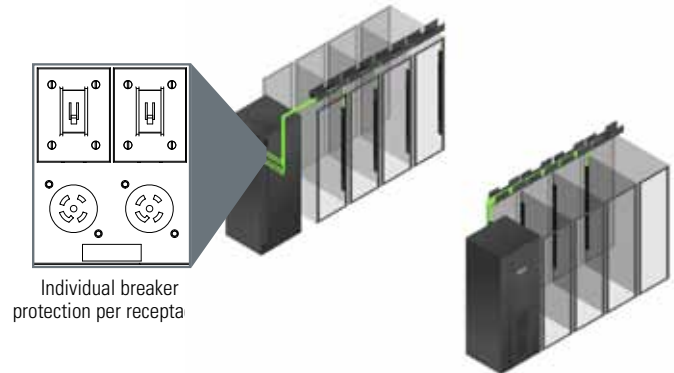
Intelligent web-based management and monitoring

Intelligent Power Software Suite (IPSS), Eaton's innovative software solution, combines the two most critical applications in ensuring system uptime and data integrity: power monitoring and management, and graceful shutdown during an extended power outage. IPSS not only enables you to manage the 9390IT, it lets you manage other power devices across your network. All from a web-based, easy-to-use interface.

Easy plug-and-play distribution

Single-corded loads

The 9390IT is perfect for powering single-corded loads in an end-of-row configuration. By simply plugging in compatible ePDUs and extension cables (if necessary) you can add racks and power equipment easily.

Individual breaker
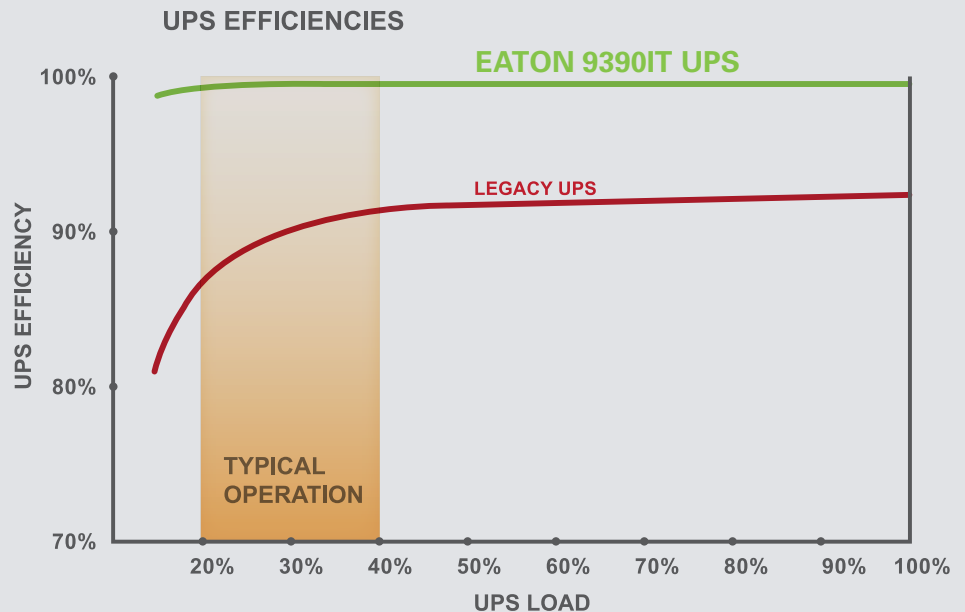protection per receptacle

Dual-corded loads

The 9390IT is also convenient for dual-corded loads and adding redundancy. By placing one 9390IT at each end of the row, ePDUs can be easily run to power servers and IT equipment giving you a redundant power scheme.

Energy Saver System delivers 99% efficiency

The 9390IT provides the highest efficiency and the highest reliability in an integrated system. And this efficiency translates directly to cost-savings. By using Eaton's Energy Saver System (ESS) the 9390IT offers flexible, on-demand functionality. It does this by placing the inverter in "ready state" during optimal conditions, and flashing to full double-conversion online in less than 2 milliseconds when a power problem is sensed. This is different from conventional UPS eco modes, where the inverter has to start cold, which extends the transition time greatly and can cause in-rush and downstream static switch problems.

Visit **Eaton.com/ESS** for more information on Energy Saver System and to perform custom efficiency calculations.

UPS EFFICIENCIES

EATON 9390IT UPS

LEGACY UPS

TYPICAL OPERATION

UPS EFFICIENCY

100%
90%
80%
70%

UPS LOAD

20% 30% 40% 50% 60% 70% 80% 90% 100%

Service and support

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 field technicians in North America, Eaton is able to handle any service easily and quickly.

The 9390IT 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 you to select the plan that provides the right combination of system uptime, convenience and value.

eNotify Remote Monitoring

Eaton's eNotify Remote Monitoring Service provides 7x24 real-time monitoring of the 9390IT and battery systems and alerts both service technicians and the customer when a problem is detected. Proactive monitoring enables technical experts to respond immediately to more than 40 alarm conditions and, in many cases, resolve issues remotely with minimal or no downtime. Additional eNotify benefits include:

• One-way outbound status and event e-mails for security and reliability

• Fast diagnosis and notification of critical alarms

• Monthly customer reports including power event logs and overall UPS and battery health summaries

Battery Runtime for 40 kVA units with internal batteries

12V, 9 Ah
String voltage = 480V (40 batteries, 240 cells)
8 minutes @ full load

Compatible ePDUs

Catalog Number	Input Plug	Cord Length (ft)	Output Receptacles
ePBZ92	L6-30P	6	(20) C13, (4) C19
PW105SW0U154	L6-30P	9	(16) C13
PW309SW0U178	L21-30P	9	(24) C13
PW105MI1U164	L6-30P	9	(12) C13
PW309MI0U256	L21-30P	9	(30) C13, (6) C19
PW317MI0U222	IEC309-60	9	(12) C13, (12) C19

Having individual breaker protection for each receptacle the 9390IT with IT distribution provides a safe and flexible power solution for IT and data center environments. Pictured here is a 40 kVA 9390IT with an L21-30R IT distribution cabinet.

IBC-S   IBC-L

Extended Runtime Battery Cabinet (IBC)

For 80-160 kVA units, and 40 kVA units without internal batteries

The available IBC-S and the IBC-L provides up to 66 minutes of run time at full load in an integrated cabinet to provide industry leading power density and run-time in one compact footprint.

The integrated cabinets offer exceptional flexibility with standard integral, line-up-and-match configurations and available remote installation options. The unit's front access design allows for easy servicing and the cabinets are UL 1778 listed with flame retardant batteries that meet UL 94V2 for computer room installation.

ACCESSORY CABINET DIMENSIONS AND WEIGHT

Accessory cabinet	IBC-S	IBC-L
H"x W"x D"	73.7 x 22.5 x 31.6	73.7 x 42.7 x 31.6
Weight	Up to 2445 lb	Up to 4835 lb

Technical specifications[1]

UPS rating (0.9 power factor)

kVA	40 - 160

General characteristics

Efficiency	99%
Audible noise	<65 dBA @ 1 meter
Altitude (max)	2000m at 40ºC (104ºF)
Available with Internal Battery*	40 kVA
Available with Integrated IT Distribution*	40, 80, 120 and 160 kVA

Input characteristics

Voltage	208, 400
Voltage range	+10% / -15%[2]
Frequency range	55-65 Hz
Power factor	0.99 (min)
Input current distortion	<4.5% (no input filter required)
Soft start capability	Yes
Internal backfeed protection	Yes
Broadcast global support	Yes

Output characteristics

Voltage	208, 400
Regulation	±1% in double conversion
Inverter	PWM with IGBT switching
Voltage THD[4]	<2% (100% linear load); <5% (non-linear load)
Load power factor range	Down to 0.9 pf leading without de-rating
Heat dissipation (BTU @ full load)	40 kVA, 208V: 11.8, 480V: 10.9 80 kVA, 208V: 23.6, 480V: 21.9 160 kVA, 208V: 47.3, 480V: 43.8
40 kVA Internal Battery Unit	Hardwire output connection

Integrated IT Distribution Units

40 kVA:	(12) L6-30R, (6) L21-30R, (4) L22-30R, (4) IEC309-60
80 kVA:	(12) L21-30R, (6) L22-30R, (6) IEC309-60, (4) IEC309-60
120 kVA:	(9) L22-30R
160 kVA:	(6) IEC309-60

Note: Rear access is required for receptacles

Battery (40 kVA Integrated Battery Model)

Battery types	VRLA, 12V, 9Ah
Battery voltage	480V
Charging method	ABM (Cyclic) or Float

Dimensions (H x W x D) inches

40 kVA:	73.7 x 18.9 x 31
40 kVA with Internal Battery:	73.7 x 27.9 x 31
40 kVA with Internal Batteries and IT Distribution :	73.7 x 34.9 x 31
40-80 kVA with IT Distribution:	73.7 x 26.9 x 31
120-160 kVA with IT Distribution:	73.7 x 43.9 x 31

Optional accessories

- Module tie cabinet
- External maintenance bypass
- Integrated distribution cabinet
- Isolation transformer
- Extended Runtime Battery Cabinet (IBC)[3]

Certification

Safety	UL1778, cUL
EMC	IEC62040-2 EN50091 Class A (restricted access)
Surge	ANSI C62, 41 Cat, A&B

eNotify Remote Monitoring service

24x7 remote monitoring of UPS and battery alarms, daily heartbeat check and monthly report required. ConnectUPS-X Web/SNMP Card and Environmental Monitoring Probe are included with enrollment. Please visit www.eaton.com/enotify for more information.

Communications

Software compatibility - Intelligent Power Manager, FORESEER, Power Xpert
Communications cards - Four (4) communication bays standard. The following connectivity options can be installed at any time:
- Modus Card
- Relay Interface Card (Use for AS400s)
- Industrial Relay Card (5A@120V)
- Hot Sync CAN Bridge Card provides CAN communications, isolated RS-485 port
- Environmental Monitoring Probe (EMP)

Remote inputs/outputs - two building alarms inputs and on summary alarm contact (5A@120V) standard
Four more building alarm inputs available with the Communications Expansion Option Remote panel - eight backlit status indicator lamps plus an audible horn

*Requires the Parallel Card option (RS-485 port) and requires an external 120V power supply to drive the remote monitor panel.

1. Due to continuing improvements, specifications are subject to change without notice.
2. At full load without battery discharge.
3. IBC battery cabinets are not available on 40 kVA units with internal batteries.
4. Not applicable in Energy Saver System mode

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