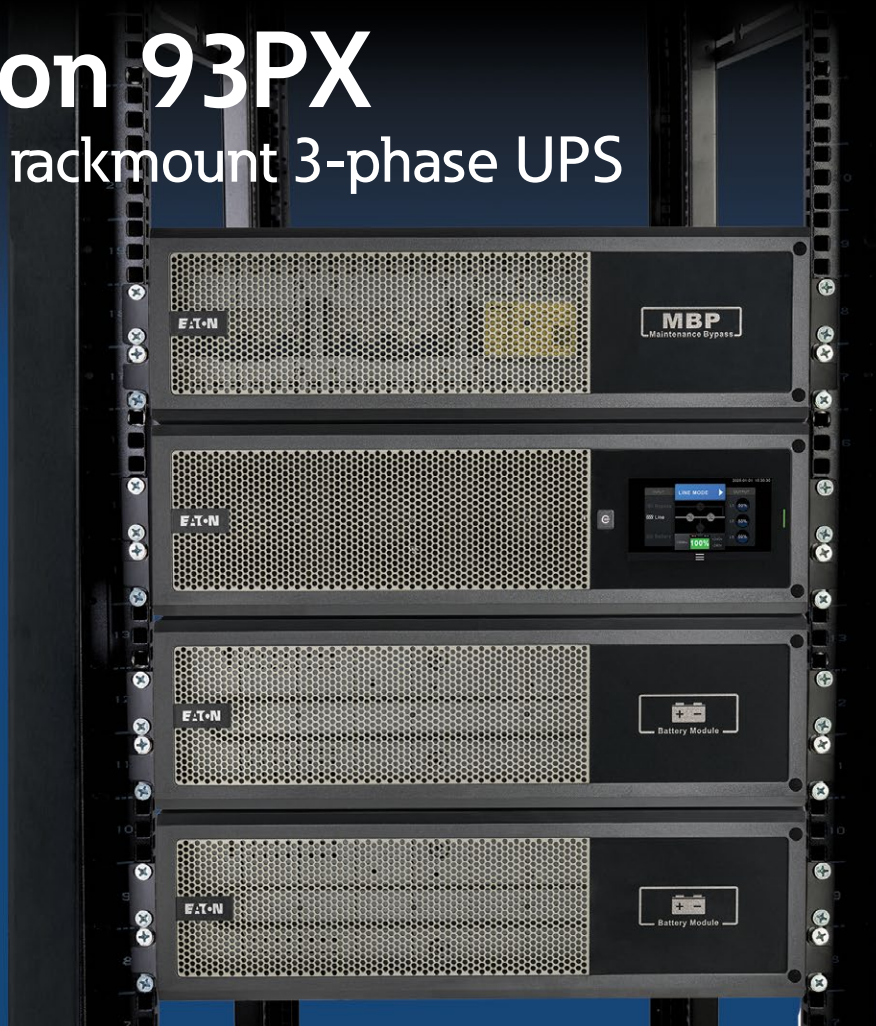# Eaton 93PX
400V rackmount 3-phase UPS

Simple, reliable, cost-effective power for edge and data center applications

- Innovative quick-connect design for easy plug-and-play deployment and service
- Unity power factor (1.0) with 15 or 20 kW capacity
- Up to 96% energy efficiency (98.8% in ECO mode)
- Network management cards with market-leading cybersecurity
- Configurable in parallel for N+1 redundancy or increased capacity (30 or 40 kW)
- Auto-restart after extended utility outage
- Online, double-conversion UPS
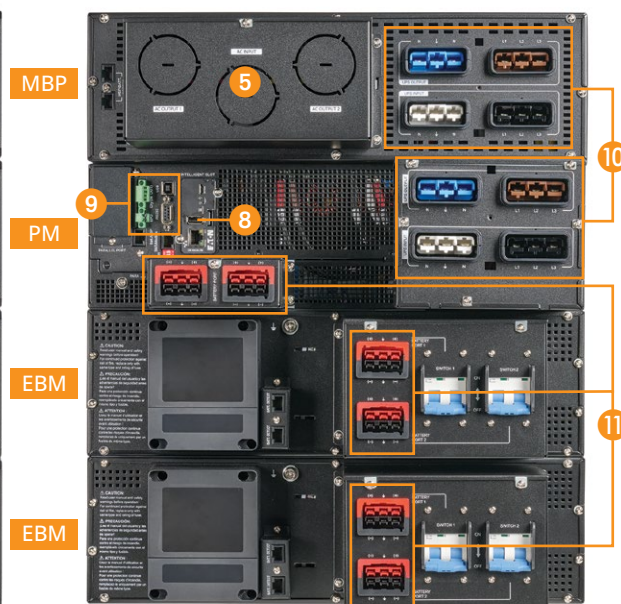- Backfeed and surge protection
- Not TAA compliant

F·T·N

Powering Business Worldwide
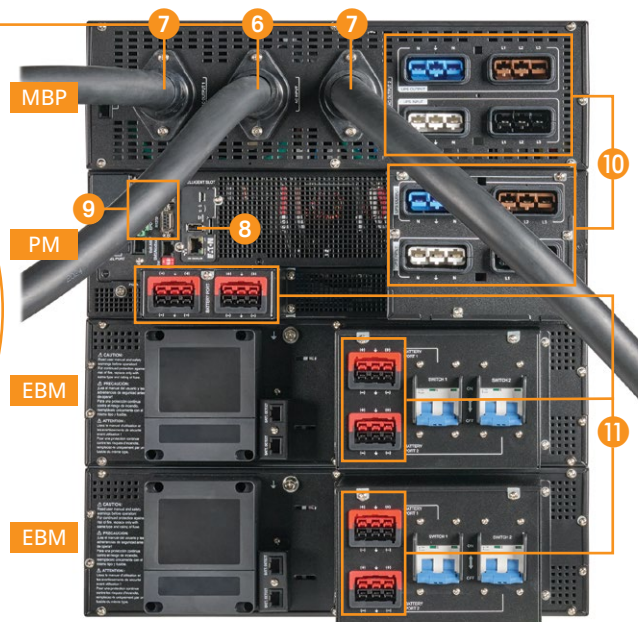
Feature focus
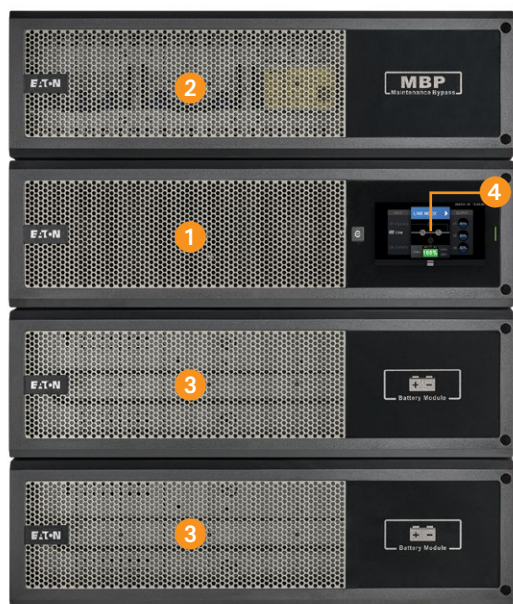
Front of 15 and 20 kW UPS (12U)

Back of hardwired 15 and 20 kW UPS

Hardwired UPS systems are also available in parallel bundles (not shown) that support N+1 redundancy or increased load capacity.

Back of corded 15 and 20 kW UPS

① **3U quick-connect power module (PM)**

15 or 20 kW capacity. The power module connects to the MBP with included cabling (not shown).

② **3U quick-connect maintenance bypass panel (MBP)**

Parallel MBPs are also available for configuring UPS systems for N+1 redundancy or increased capacity (30 or 40 kW).

③ **3U quick-connect extended battery module (EBM)**

UPS systems include two EBMs.

④ **LCD control panel and status LED**

4.3-inch (11 cm) color touchscreen and multicolor status LED.

⑤ **Hardwired MBP: Terminal block input/output**

4-wire + ground.

⑥ **Corded MBP: AC input with 10-foot cord**

IEC 309 60A plug.

⑦ **Corded MBP: AC output with 2-foot cord** (Corded output connects directly to rack PDU input cords.)

IEC 309 60A receptacle.

⑧ **Cybersecure network management cards**

Network management card supporting Web/SNMP (NETWORK-M3) or Modbus/SNMP/Web/BACnet (INDGW-M2 or INDGW-M3).

⑨ **Communication ports (RS-232, USB, EPO, dry contact)**

⑩ **Quick-connect ports for PM/MBP connection**

The power module and MBP connect to each other with included cabling (not shown).

⑪ **EBM connectors**

The power module connects to the EBMs with included cabling.

Ordering information

93PX 400V UPS bundles

Standard UPS bundles include 3U power module (PM) with network management card (NMC), 3U maintenance bypass panel (MBP) and two 3U extended battery modules (EBMs).

Parallel bundles ("PAR" suffix) support N+1 redundancy or increased capacity (30 or 40 kW) and include two 3U PMs with NMCs, a 3U parallel MBP and four 3U EBMs.

Catalog number	Capacity	MBP input connection	MBP output connection(s) – 5-wire	Rack size	Network card
93PX20KIMBN	20 kW	IEC 309 60A plug with 10 ft. cord	(2) IEC 309 60A receptacles with 2 ft. cords	12U	NETWORK-M3
93PX20KIMBNDG	20 kW	IEC 309 60A plug with 10 ft. cord	(2) IEC 309 60A receptacles with 2 ft. cords	12U	INDGW-M2 or INDGW-M3
93PX20KIHWN	20 kW	Hardwired	Hardwired	12U	NETWORK-M3
93PX20KHWNPAR	40 kW or 20 kW (N+1)	Hardwired	Hardwired	21U	(2) NETWORK-M3
93PX20KIHWNDG	20 kW	Hardwired	Hardwired	12U	INDGW-M2 or INDGW-M3
93PX20KHWNDGPAR	40 kW or 20 kW (N+1)	Hardwired	Hardwired	21U	(2) INDGW-M2 or INDGW-M3
93PX15KIMBN	15 kW	IEC 309 60A plug with 10 ft. cord	(2) IEC 309 60A receptacles with 2 ft. cords	12U	NETWORK-M3
93PX15KIMBNDG	15 kW	IEC 309 60A plug with 10 ft. cord	(2) IEC 309 60A receptacles with 2 ft. cords	12U	INDGW-M2 or INDGW-M3
93PX15KIHWN	15 kW	Hardwired	Hardwired	12U	NETWORK-M3
93PX15KHWNPAR	30 kW or 15 kW (N+1)	Hardwired	Hardwired	21U	(2) NETWORK-M3
93PX15KIHWNDG	15 kW	Hardwired	Hardwired	12U	INDGW-M2 or INDGW-M3
93PX15KHWNDGPAR	30 kW or 15 kW (N+1)	Hardwired	Hardwired	21U	(2) INDGW-M2 or INDGW-M3

Accessories

NETWORK-M3

INDGW-M2 or INDGW-M3

EMPDT1H1C2

Catalog number	Description
93PX2EBM480U	One pair of extended battery modules (EBMs), 3U each. 93PX 400V UPS systems can support up to 8 EBMs (4 pairs) total.
NETWORK-M3	Network management card with SNMP communications and certified cybersecurity. Included with select UPS bundles.
INDGW-M2 or INDGW-M3	Industrial network management card with Modbus/SNMP/Web/BACnet communications and certified cybersecurity. Included with select UPS bundles.
EMPDT1H1C2	Environmental monitoring probe with temperature, humidity and dry contact monitoring. Requires NETWORK-M3, INDGW-M2 or INDGW-M3. Connect up to 3 per card.

Comprehensive data center solutions

From edge to data center, Eaton provides a single source for all the products, services and support you need for your IT infrastructure. See page 7 for a selection of Eaton rack PDUs and rack enclosures compatible with 93PX 400V UPS systems.

Additional solutions include KVM switches, console servers, network cables, power cords, cable management, cooling, aisle containment, busway systems, software and services.

Learn more at Eaton.com/DataCenter

Simplified fleet management

Every 93PX UPS comes with a cybersecure network card, allowing you to monitor and manage your UPS fleet remotely for greater convenience and peace of mind.

For smaller environments, you can connect to UPS systems using a web browser and receive email alerts. For larger deployments across multiple locations, 93PX UPS systems integrate smoothly via SNMP with digital solutions from our **Brightlayer Data Centers suite**

Brightlayer
Data Centers suite

Distributed IT Performance Management (DITPM) software helps you remotely monitor and control up to thousands of UPS systems and PDUs at remote sites.

- Know what's happening with real-time reports, trend charts, dashboards and alerts prioritized by severity.
- Troubleshoot and resolve issues more quickly.
- Remotely control load segments regardless of vendor.
- Update firmware remotely to improve cybersecurity.
- Leverage integrations with virtualization platform leaders.
- Gracefully shut down IT equipment in your required order.

Learn more at **Eaton.com/DITPM**

Remote power management dashboard from DITPM software.

Data Center Performance Management (DCPM) software helps you manage power, space, connectivity and cooling to maximize uptime while minimizing capital and operating costs.

- Gain efficiencies and reduce costs with real-time data and automated alerts.
- View 2D and 3D visualizations and automated reports.
- Gain near-real-time visibility into key performance indicators.
- Integrate with other software, such as building management systems, to improve efficiency, productivity, data accuracy, decision-making and cost savings.

Learn more at **Eaton.com/DCPM**
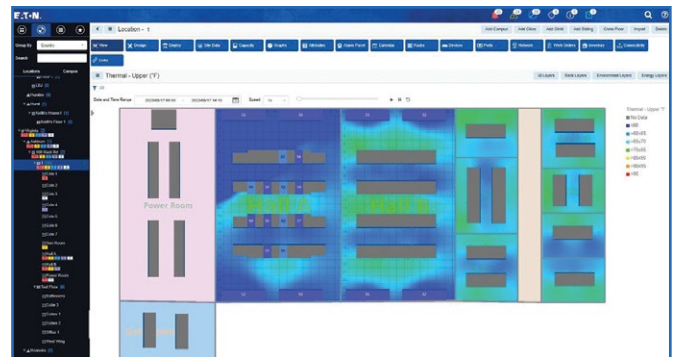
Data center thermal map from DCPM software.

Our **Remote Monitoring Service**, also known as PredictPulse™, provides 24/7 remote monitoring and predictive analytics to forecast failures before issues arise and dispatches field service technicians when needed.

- Know about future component failures before they happen.
- Gain fast response and repairs from Eaton technicians.
- Access real-time health trends, alarms and outages prevented.

Learn more at **Eaton.com/RemoteMonitoringService**
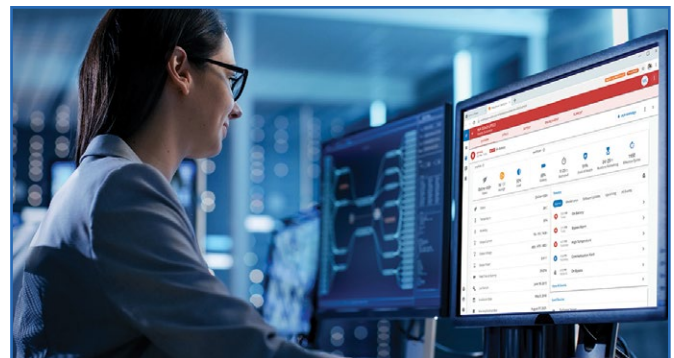
Battery notification from Remote Monitoring Service.

Certified cybersecurity

The included network management card complies with UL and IEC cybersecurity standards and provides industry-leading security and automation features.

Zero-trust architecture
- Minimizes cybersecurity vulnerabilities through hardware root of trust, enabling secure boot and complete chain of trust with private hardware key encryption.

Zero-touch provisioning
- Automatically configures equipment to save time and reduce errors in large-scale deployments.

User-configurable firewall
- Reduces your organization's attackable surface area.
- Helps meet network/security compliance requirements.
- Supports IP white list.

RESTful API
- Allows you to easily integrate networked UPS systems with native systems and automate M2M interactions.

Secure access via web browser or SNMP
- Access UPS systems using the secure web browser interface or integrate with a network management system via SNMP.

For more information, download our cybersecurity solutions brief (PDF).

Ready for virtualization, hyperconverged infrastructure and generative AI

Brightlayer software enables seamless integration and intelligent coordination with virtualized, hyperconverged and generative AI infrastructures. Support for complex orchestrations during blackouts and other power events allows you to extend runtime, preserve data and gracefully shut down or migrate servers per your preferences.

Eaton is the leader in power management for virtualization platforms and has more than 500 hours invested in testing with alliance partners like Cisco, Dell, HPE, NetApp, Nutanix, Scale Computing and VMware.

Learn more at **Eaton.com/alliances**
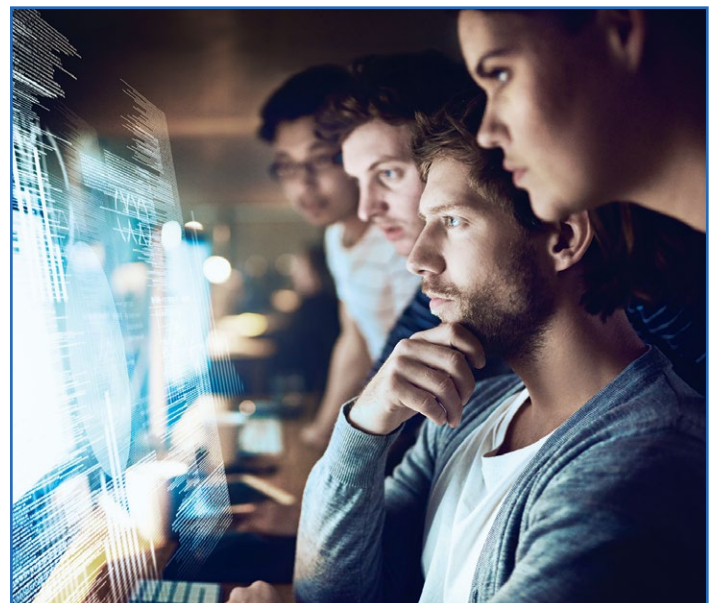
Quick and easy deployment and service

Eaton's 93PX UPS has an innovative quick-connect design for easy plug-and-play deployment and service.

Simply connect the rack PDU's AC input plug to the AC output receptacle of the UPS.

Plug-and-play UPS system

- Interconnections between the UPS power module, the maintenance bypass and the extended battery modules provide easy plug-and-play setup and serviceability.

Quick AC input connection

- All UPS systems can be configured with corded AC input for easy power connection.
- All UPS systems are also available with hardwired input.

Quick AC output connection to rack PDUs

- All UPS systems can be configured with corded AC output receptacles, allowing you to simply plug compatible rack PDUs into the UPS.
- All UPS systems are also available with hardwired output.

From unboxing to connection in a few easy steps

1. Mount the UPS modules in a standard rack using the included hardware.
2. Connect the UPS modules together with the included cables.
3. For corded input UPS systems, plug the UPS into the utility outlet with the input power cord on the back of the maintenance bypass panel.
4. For corded output UPS systems, plug your rack PDUs into the corded AC output receptacles on the back of the maintenance bypass panel.
   (See page 7 for compatible Eaton rack PDU options.)

Key applications

High-density IT infrastructure

- Eaton's 93PX provides up to 20 kW (up to 40 kW when configured in parallel) of critical backup power for high-density applications.
- Mounts in a standard 19-inch IT rack or rack enclosure.
- Small rack footprint and high power density save valuable data center white space.
- Allows IT managers to monitor and control power in distributed and edge deployments.
- Included network management card provides best-in-class cybersecurity.
- Provides up to 98.8% efficiency in ECO mode to reduce energy consumption and operating costs.

Commercial buildings and industrial facilities

- Can be deployed outside data center environments and supports challenging loads.
- Select bundles include an industrial gateway card (INDGW-M2 or INDGW-M3) to support key commercial/industrial protocols like Modbus, BACnet and SNMP.

Healthcare

- Compact footprint saves space in cramped hospitals, clinics and other medical facilities.
- Adapts to rack or standalone installation, making it adaptable to different healthcare setups.
- Online operation with pure sine wave power and zero transfer time supports medical devices requiring the highest power quality, stability and reliability.

Complete your solution with Eaton

Eaton rack PDUs

Basic PDUs provide reliable power distribution with branch circuit protection. **Metered input PDUs** include remote management with bank-level monitoring. **Metered outlet PDUs** include remote management with outlet-level monitoring. **Managed PDUs** are our most advanced rack PDUs and include remote management with outlet-level monitoring and control. All PDUs shown below are vertical PDUs that support toolless 0U mounting.

	UPS catalog number	Compatible managed PDUs	Compatible metered outlet PDUs	Compatible metered input PDUs	Compatible basic PDUs
20 kW	93PX20KIMBN[1]	EVMAGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39)	EVMOGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39)	EVMIGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39)	EVBAGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39)
	93PX20KIMBNDG[1]	EVMAGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39) EVMAGU23X[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39) EVMOGU23X[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39) EVMIGU23X[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	
	93PX20KIHWN[2]	EVMAGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVMOGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVMIGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVBAGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)
	93PX20KHWNPAR[2]	EVMAGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	
	93PX20KIHWNDG[2]				
	93PX20KHWNDGPAR[2]	EVMAGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	
15 kW	93PX15KIMBN[1]	EVMAGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39)	EVMOGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39) EVMOGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	EVMIGU23A-E[3] + CBL360-10 (23 kW; 12 C13, 12 C39)	EVBAGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39)
	93PX15KIMBNDG[1]	EVMAGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X-E[3] + CBL360-10 (23 kW; 24 C13, 18 C39)	
	93PX15KIHWN[2]	EVMAGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVMOGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVMIGU23A-E[3] + CBL369-10 (23 kW; 12 C13, 12 C39)	EVBAGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)
	93PX15KHWNPAR[2]	EVMAGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X-E[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	
	93PX15KIHWNDG[2]				
	93PX15KHWNDGPAR[2]	EVMAGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMOGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	EVMIGU23X[3] + CBL369-10 (23 kW; 24 C13, 18 C39)	

C39 outlets: Flexible C39 outlets combine the functionality of C13 and C19 outlets. **Input power cord length:** 10 ft. **Other notes: (1)** UPS with corded input and output. **(2)** UPS with hardwired input and output. **(3)** Universal-input PDU (UPDU) compatible with variety of interchangeable input power cords. Capacity is 5 to 23 kW, depending on input power cord. UPDUs ending with "-E" have end-entry input cord connection. Others have front-entry (perpendicular) connection.

Don't see the PDU you need? Find more at **RackPDUselector.Eaton.com**

Eaton rack enclosures

Eaton 93PX 400V UPS systems are compatible with standard EIA 19-inch rack enclosures with a maximum device depth of at least 37 inches (940 mm).

Catalog number	Type	Height	Width	Maximum device depth	Weight capacity (Static/dynamic)	Color
SR25UB	Standard	25U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR42UB	Standard	42U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR42UBDP	Standard deep	42U	23.6 in. (600 mm)	42 in. (1067 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR42UBDPWD8	Standard deep/wide	42U	31.5 in. (800 mm)	44 in. (1118 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR42UBEIS	Industrial	42U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR42UBZ4	Seismic	42U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR45UB	Standard	45U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR45UBDP	Standard deep	45U	23.6 in. (600 mm)	42 in. (1067 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR48UB	Standard	48U	23.6 in. (600 mm)	37 in. (940 mm)	3500/2250 lb. (1588/1021 kg)	Black
SR48UBDP	Standard deep	48U	23.6 in. (600 mm)	42 in. (1067 mm)	3500/2250 lb. (1588/1021 kg)	Black

Don't see the rack you need? Find more at **TrippLite.Eaton.com/racks**

Eaton 93PX 400V UPS technical specifications (preliminary)

Power rating	15 kW	20 kW
Phase (in/out)	3-phase, 4-wire + ground (Wye in/Wye out)	

Input characteristics

Nominal voltage	380/400/415 VAC (Ph-Ph)	
Input voltage range	173 to 520 VAC (Ph-Ph) ≤ 50% load; 277 to 520 VAC (Ph-Ph) @ 100% load	
Frequency range	Auto-sensing 50/60 Hz; 45 to 55 Hz @ 50 Hz; 54 to 66 Hz @ 60 Hz	
Nominal input current	32.0A	40.0A
Backfeed protection	Yes	
Power factor	> 0.995 @ 100% R load	
Input harmonic distortion (THDi)	≤ 3% @ 100% load	
AC input connection (via MBP)	IEC 309 60A, 10 ft. cord (or hardwired)	

Output characteristics

Power factor	1.0	
Output voltage	380 VAC (Ph-Ph)/220 VAC (Ph-N); Default: 400 VAC (Ph-Ph)/230 VAC (Ph-N); 415 VAC (Ph-Ph)/240 VAC (Ph-N)	
Voltage regulation	± 1%	
Frequency range (synchronized)	45 to 55 Hz	
Frequency range	50 Hz ± 0.1 Hz	
Nominal output current	22.8A	30.3A
Current crest ratio (maximum)	3:1	
Harmonic distortion (THDv)	≤ 1% (linear load); ≤ 3% (non-linear load)	
Transfer time	AC to battery mode: zero; Inverter to bypass: zero	
Waveform (battery mode)	Pure sine wave	
Overload (AC mode)	105 to 125% for 10 min.; 126 to 150% for 1 min.; >150% for 0.5 sec.	
Overload (battery mode)	105 to 125% for 1 min.; 126 to 150% for 30 sec.; >150% for 0.5 sec.	
Output connections (via MBP)	2 x IEC 309 60A, 2 ft. cord (or hardwired)	
Parallel configuration	Parallel 2 units for N+1 redundancy or increased capacity (30 kW) via parallel MBP	Parallel 2 units for N+1 redundancy or increased capacity (40 kW) via parallel MBP

Battery and charger

DC voltage	± 240 VDC	
Battery quantity per module (EBM)	20 pcs (9 Ah) per EBM	
Charger current, default	User-adjustable 1-8A (4A default)	
Minimum battery modules (EBMs)	2 EBMs	
Maximum battery modules (EBMs)	8 EBMs (added in pairs only)	
Float voltage	13.86V/pc	
Maximum charging voltage	14.28V/pc	
Charger temperature compensation	20 mV/pc/°C	
Low voltage cutoff/shutdown	10.02V/pc (load > 70%)	
Estimated backup runtime (100%/50% load)	2 EBMs: 3.8/14.7 min.	2 EBMs: 2.5/9.5 min.
Battery charger	Advanced 3-stage smart charger	
Recharge time	≤ 3 hr. to 90% (2 EBMs)	
Battery type	VRLA, 9 Ah	
EBM connection cables	Quick-connect cables and connectors	

Efficiency	15 kW	20 kW
Online mode (maximum)	Up to 96%	
ECO or ESS mode (maximum)	Up to 98.8%	
Battery mode (maximum)	Up to 94%	

Dimensions

Power module unit dimensions (DxWxH)	28.1 x 17.2 x 5.1 in. / 713 x 438 x 129 mm (3U)	
Power module unit weight	57.1 lb. (25.9 kg)	
EBM unit dimensions (DxWxH)	2 EBMs: 27.3 x 17.2 x 10.2 in. / 693 x 438 x 258 mm (6U)	
EBM unit weight	2 EBMs: 275.6 lb. (125 kg)	

Environment

Operating temperature	32 to 104°F (0 to 40°C)	
Storage temperature	UPS: 5 to 140°F (-15 to 60°C); Batteries: 5 to 104°F (-15 to 40°C)	
Relative humidity	< 95% (non-condensing)	
Operating altitude	No derating up to 1000 m (3280 ft.); 1% derating per 100 m (328 ft.) above 1000 m (3280 ft.) up to 2000 m (6562 ft.)	
Noise level @ 1 m	≤ 65 dB	

Management

Control panel	4.3 in. (11 cm) color LCD touchscreen with multi-language display	
Network management card (included with select UPS bundles)	NETWORK-M3 (Web/SNMP and UL/IEC certified cybersecurity.)	
Industrial network management card (included with select UPS bundles)	INDGW-M2 or INDGW-M3 (Modbus/SNMP/Web/BACnet and UL/IEC certified cybersecurity.)	
Environmental monitoring probe (optional)	EMPDT1H1C2 (Temperature, humidity and dry contact monitoring. Requires NETWORK-M3, INDGW-M2 or INDGW-M3.)	
Other ports	RS-232, USB and EPO	

Approvals

Safety	IEC 62040-1:2017+A1:2021+A2:2022; EN IEC 62040-1:2019+A11:2021 UL1778: 2014 Fifth Edition	
Conduction/radiation	FCC: Class A; CE: Category C3; FCC CFR Title 47, Part 15, Subpart B; ICES-003: Issue 7, IEC 62040-2:2016; EN IEC 62040-2:2018; EN 62040-2:2006	
Surge protection	IEC/EN-61000-4-5	
Vibration, shock, drop testing	Tested to ISTA standards	
Other	RoHS compliant	

Warranty

Limited product warranty period	2 years (U.S. and Canada)	

Each UPS system includes a power module (PM), maintenance bypass panel (MBP) and two extended battery modules (EBMs). Due to continuing improvements, specifications are subject to change without notice.

For more information, please call Eaton at 773-869-1236 or email CPDISalesEngineering@Eaton.com

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