9PX 1.5/3kVA Lithium-Ion

Business continuity for edge computing

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Target Market

Classical IT space

- **"Network edge"**
  - Looking in spaces where it's difficult to service a large fleet of distributed UPS units for battery replacement (like remote sites)
  - Applications where cost of 'rolling a truck' on-site far outweighs cost of lithium-ion
  - Installations with limited space and long runtime requirements
- **Critical IT**
  - Applications that require the highest level of availability
  - No risk of downtime because of battery failure
  - No time to plan battery replacement, labor & shipping

Opportunities

- **Healthcare**
  - Align with longer life medical equipment
  - No need to replace batteries in a constrained environment
- **Industrial**
  - Remote sites difficult to access (Offshore, isolated, …)
  - Maintenance cost higher than the Li-Ion battery price premium

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9PX Li-Ion Value proposition

Differentiation Points	Why It Matters?
Longer life • **8-10 years** service life • **No** need for **battery replacement** • 5 years **full warranty**	IT managers that are currently deploying large fleet of “Network edge” equipment are looking for low maintenance solution.
Cybersecurity & Virtualisation • **Dual cyber security** certifications • **VM-centric** management • **Validated** integration capabilities	IT managers are now looking for cybersecure solutions and advanced virtualization capabilities to improve their infrastructure performance and resiliency.
Energy & Capacity Management • Energy **efficient** • Increased **power** • **Power consumption** measurement	Constraint IT budgets lead to better utilization of existing assets. Monitoring power consumption helps assess your needs.

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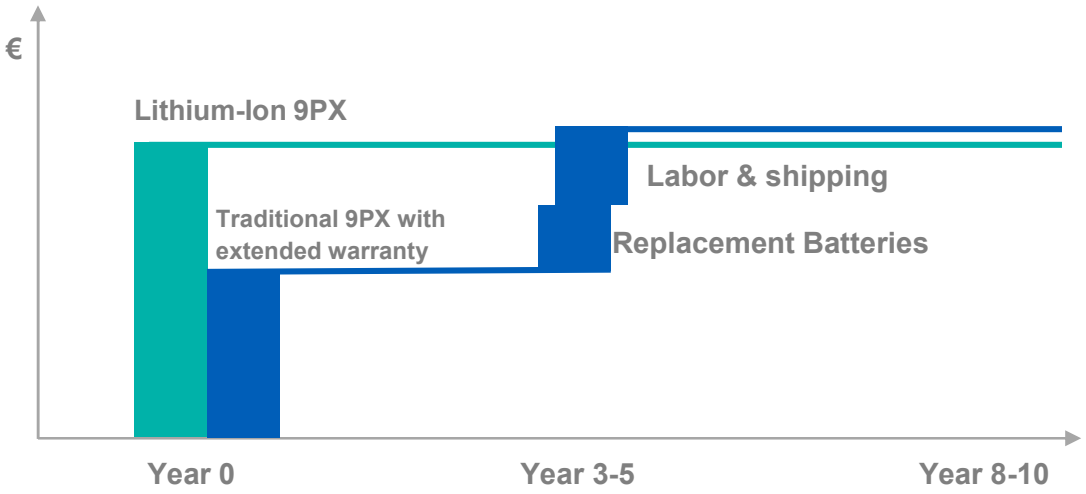
Total cost of ownership

Is it worth it?



Where to play

- **Difficult to service**
  - Remote locations
  - Large deployments
  - Cost of intervention
- **Critical equipment**
  - Core IT
  - Medical
  - Control system (Industrial)
- **Frequent outage**
  - Need faster recharge
  - More cycles

9PX Li-Ion offers 10-year-peace of mind for the same TCO as standard models

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Availability

Longer life

NEW

- Li-Ion Batteries (LFP, *lithium ferrophosphate*)
- 8-10 years battery life (3-5 years for lead-acid batteries)
- No need for battery replacement
- 5 years full warranty (electronics and batteries)

Double conversion topology

- Constantly monitors power conditions (voltage and frequency)
- Automatic by-pass handles overload and UPS failure

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Availability

Intelligent battery management

NEW

- 2x runtime: increase uptime at typical load levels with internal batteries
- 24x7 monitoring: Battery Management System (BMS) actively monitors temperature and charge cycles

Up to 4 compact external hot-swappable battery modules

- Capable of running systems for hours if necessary
- Automatic recognition of additional modules

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Unmatched performance

Unity power factor (VA=W)

- Unique in its class
- Delivers 11% more power than predecessor/competitors
- Powers more servers
- 3kVA power limited to 2.4kW without EBM

Energy efficiency

- Industry leading efficiency Up to 94% in online mode
- Energy Star qualified
- Reduce energy/cooling costs & CO2 emissions

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Easier installation

Lighter weight

NEW

- UPS weight reduced up to 20%
- EBM weight reduced more than 40%

Small size

- 2U UPS size (same as standard models)
- Battery extension size reduced to 1U

Runtime	VRLA	LI-Ion	Advantage
20 minutes at 50% load	UPS with 1 EBM	UPS with no EBM	Save 2U
1 hour at 50% load	UPS with 2 EBMs	UPS with 2 EBMs	Save 2U

Remote management

NEW

- Firmware upgrade through Network card
- Parameters change through Network card

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Manageability

Advanced LCD display

- Full UPS status and configuration (in 9 languages)

Built-in energy meter

- Advanced capacity management with power consumption information and kWh down to the outlet group level

Load segment control (2 groups)

- Manages sequential start-ups
- Prioritised shutdown to maximize battery runtime
- Remotely reboots locked-up equipment

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Manageability

Industry leading network connectivity

- Gigabit network capabilities (Network-M2) for data centre environments
- Dual cyber security certifications (UL 2900-1/IEC 62443-4-2)
- Netpack version includes Network card

Virtualisation ready with Intelligent Power Manager

- Deep integration within virtual environments (Vmware & HyperV)
- Simple disaster recovery automation on power & environmental events
- Advanced load shedding capabilities to power your most critical loads longer

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9PX Li-Ion Range overview

	9PX 1.5kVA	9PX 2.2kVA	9PX 3kVA
RT2U Version	 Delivered with Rack kit	 Delivered with Rack kit	 Delivered with Rack kit
Netpack Version	 Delivered with Rack kit & Network card	 Delivered with Rack kit & Network card	 Delivered with Rack kit & Network card
EBM (1U)	 Delivered with Rack kit	 Delivered with Rack kit	
Com	**Network-M2:** SNMP/Web management cards (included in Netpack) **INDGW-M2:** Modbus (TCP & RTU) + SNMP/Web **Relay-MS:** Relay & AS400 **EMPDT1H1C2:** Environmental Monitoring Probe		
Flex/MBP	**FlexPDU:** Add more IEC outlets or local sockets **HotSwap MBP:** Add Maintenance Bypass capability (with IEC, local sockets or Hardwired)		

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FAQs

Does Eaton see lithium-ion fully replacing traditional VRLA batteries?	We believe in lithium-ion technology. However, we do believe there will continue to be places where VRLA is more suitable and expect to offer a balance of VRLA and lithium-ion solutions even as we continue investing in longer life battery solutions.
I like the benefits of lithium ion but how do I make sure it's the right investment for me?	The longer lithium-ion battery life of the UPS (2x battery life vs VRLA) can eliminate the cost of procuring replacement batteries as well as the labor cost for in-person battery replacement. So, while it is true the capital expenditure is higher for lithium ion, the lower OPEX costs can offset the up-front investment for many customers.
What is max room temp for a lithium battery UPS?	The Operating temperature range is the same as standard (VRLA) models: 0 to 40°C
Can you upgrade currently deployed 9PX units to Li-Ion?	No, the 9PX Li-Ion models have additional communication capabilities (i.e., BMS) which VRLA units do not, so it's not possible to upgrade standard units to Li-Ion

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