Product brochure

20–50 kW

Eaton EnergyAware UPS

Eaton is expanding the role of the UPS, enabling you to do more with deployed assets.

The Eaton® EnergyAware UPS combines tried-and-true UPS technology with advanced energy storage functions. Protect valuable equipment from power disturbances events while leveraging UPS batteries to reduce facility operating costs or earn revenue through energy market participation.

Put UPS and battery assets to work for your bottom line:

- If your utility rate structure includes high demand charges, UPS batteries can be called on to curtail peak power draw from the utility, reducing costly demand charges.
- For facilities with time-of-use rates, supplement your load with UPS batteries during periods of high energy rates, re-charging batteries during times of low energy prices.
- Supplement existing load reduction techniques or generator use when participating in utility-sponsored demand response (DR) programs. Seamlessly integrate UPS assets to multiply payout for DR participation.
- Deploy UPS assets to participate in frequency response programs—available in the Mid-Atlantic (PJM) region today, with other regions coming soon.
- Ideal for facilities with UPS assets in need of battery replacements. Utilize existing UPS hardware, while upgrading to longer-life lithium batteries.
- Enables full utilization of available capacity. Perfect for N+1 systems.

EnergyAware enables complete control of deployed UPS and battery assets:

- You decide when to participate and how much capacity to allow.
- Configurable HMI screens give the user control of all aspects of the system.
- Utilize Eaton's scheduling and dispatch functions, or command externally through the MESA-compliant Modbus TCP interface.
- Programmable minimum runtime and load levels to ensure critical load is always protected.
- Eaton's proprietary algorithms secure the pre-determined battery capacity for mission critical applications, never sacrificing the primary objective of clean and secure backup.
- Fully scalable and can flexibly adapt to your regional utility programs, rate structures and load profiles.

Less than 3-year payback!

50% loaded 1MW UPS with 10 minutes of excess capacity could

EARN

$35,000

A YEAR

in Northern Virginia by participating in frequency regulation.

50% loaded 1MW UPS with 10 minutes of excess capacity could

SAVE

$40,000

A YEAR

in Toronto through the Global Adjustment program.

Powering Business Worldwide

EnergyAware enables facilities to support sustainable energy solutions, optimize the cost of powering buildings and earn additional revenue from assets currently deployed.

Applications

Demand charge management
User avoids demand charges by discharging at peak times.

Time-of-use optimization
Shifts energy consumption to avoid peak energy usage.

Demand response
Utility company requests reduction in power usage.

Frequency regulation
Charge or discharge battery on command to stabilize the grid.

Aggregation services
Manage multiple assets in a building or campus to work as a single entity.

Generator replacement or offsetting
Utilize extended battery capacity as an environmentally friendly alternative to diesel generators.

EnergyAware controller

TECHNICAL SPECIFICATIONS[1]

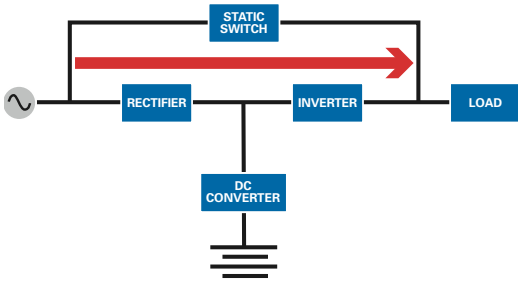
General characteristics

EnergyAware Controller	Add-on accessory to your Eaton UPS
Ethernet connectivity	UI accessible through standard web browser
Dashboard	View status, alarms, meters and settings
Configuration screens	Set reserve capacity and other system parameters
Mounting	Flexible remote mounting standard, UPS mounting available on some models
Energy storage system	MESA-compliant industry standard protocol through Modbus TCP
Security	Eaton's industry-leading cybersecurity compliance
UPS compatibility	Available on PowerXpert 9395 UPS 30kW-4MW. Retrofit kit available for existing UPS systems already deployed
Integration	Eaton's PredictPulse cloud-based remote monitoring service
Dimensions	279 x 376 x 259 mm / 11"x14.8"x10.2" (HxWxD)
Ambient temperature:	0 to 40°C (32 to 104°F)
Storage temperature	-25 to 60°C (-13 to 140°F)
Relative humidity	5 to 95% non-condensing
EnergyAware Controller AC input voltage	400-480V, derived from UPS critical bus
EnergyAware Controller weight	11.8 kg (26 lb.)
System requires 2 power meters (input and output), often already available in existing infrastructure	Recommended: Eaton PXM-2270 with optional gateway card.
Batteries	System intended for use with lithium-ion batteries

1. Due to continuing improvements, specifications are subject to change without notice.

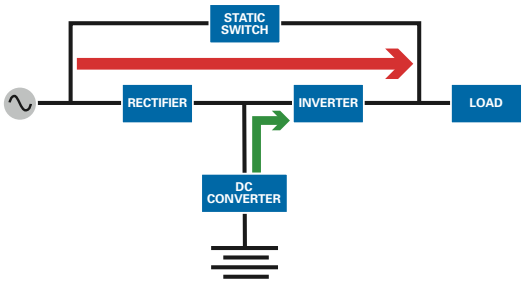
Operating modes

Normal double conversion operation (UPS mode only)



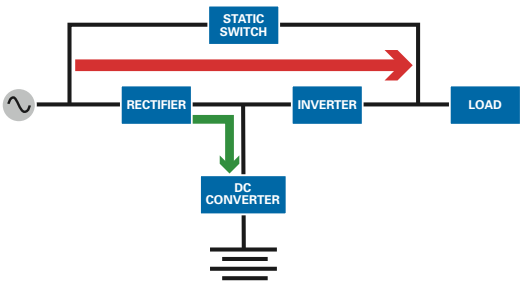
- ✔ UPS supporting load
- ✔ Battery fully charged
- ✔ Static switch off

Double conversion + demand reduction operation



- ✔ UPS still supporting load
- ✔ Battery discharged to reduce utility demand

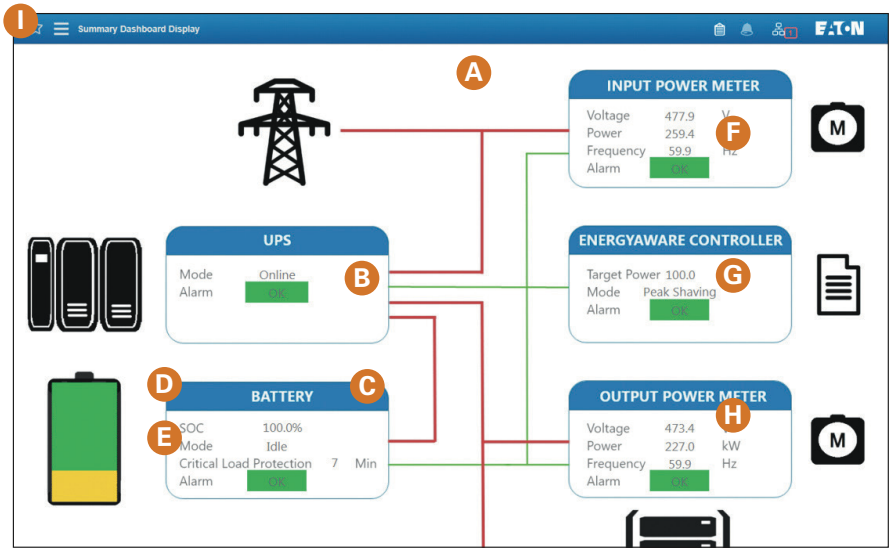
Double conversion + adding demand to grid



- ✔ UPS still supporting load
- ✔ Battery charged to increase utility demand

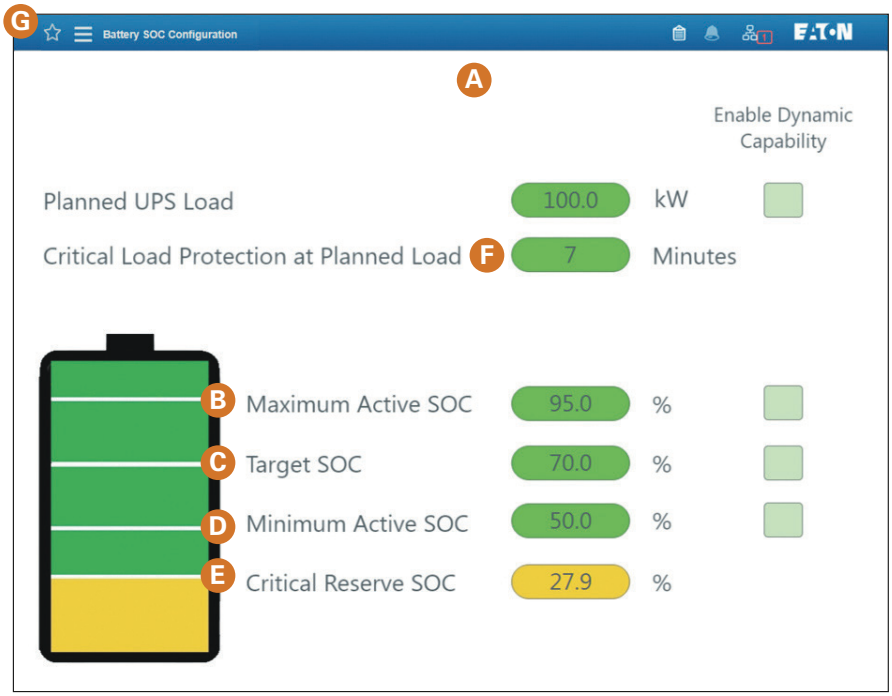
User interface – dashboard

- **A** User interface main dashboard screen
- **B** UPS status
- **C** Battery status and SoC monitoring
- **D** Available energy services capacity of the battery
- **E** Critical reserve capacity of the battery
- **F** Input meter snapshot
- **G** EnergyAware controller status
- **H** Output meter snapshot
- **I** Menus



Battery state-of-charge (SoC) screen

- **A** Battery SoC screen
- **B** Maximum active SoC
- **C** Target SoC
- **D** Minimum active SoC
- **E** Critical reserve SoC – critical load protection
- **F** Critical load backup time
- **G** Menus



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