



Eaton 3ph UPS technologies
Modularity and resiliency

**Eaton's modular UPS for
maximum resiliency**

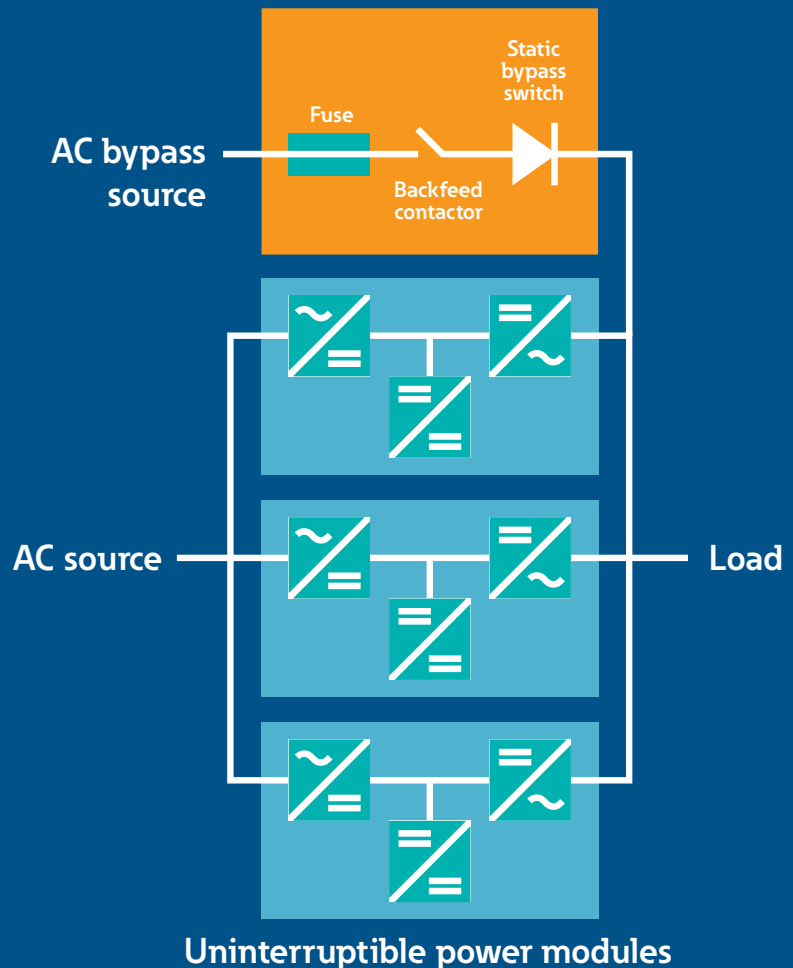
EATON

Powering Business Worldwide



Best of both - Benefits of modularity combined with resiliency

Each Power Module in Eaton modular UPS includes all components required for double-conversion operation. In addition, there is one common fully rated static bypass per UPS. This topology enables combining the benefits of modularity; flexibility, availability and scalability, with the resiliency of centralized static bypass.



Flexibility and availability

Modular structure can ensure the simplest possible configuration to meet site-specific UPS power and redundancy requirements flexibly. The Uninterruptible Power Modules are able to operate independently, introducing inherent redundancy and maximizing availability of the critical load.



Scalability

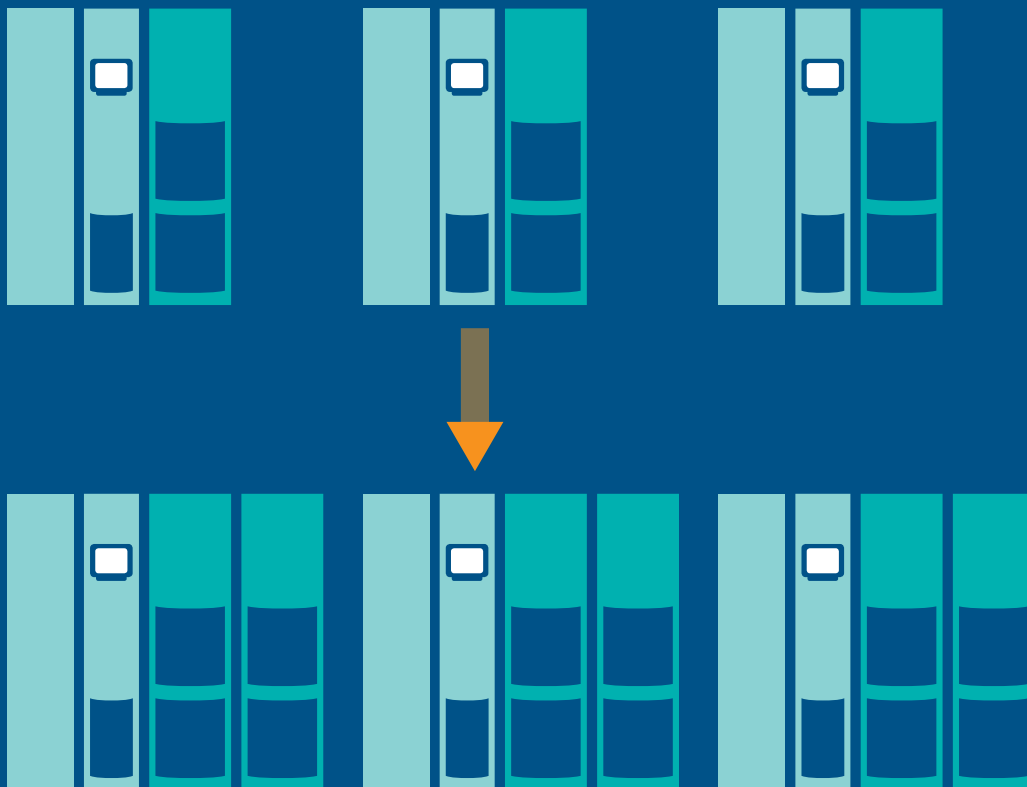
Eaton modular UPS provides several options for scaling and tailoring the optimal fit for your application. UPS power scaling can be achieved by

- Increasing UPS capacity
- Adding a new UPS in parallel to the existing installation or
- Adding a new UPS system and transferring the load to it

Eaton modular UPSs support scalability of UPS capacity any time, simply by adding power modules to the existing UPS. Thanks to Hot Sync, Eaton's resilient paralleling technology, a new UPS can be added to existing UPS installation without disruption to the online operation of the UPS system.

Does scalability compromise selectivity?

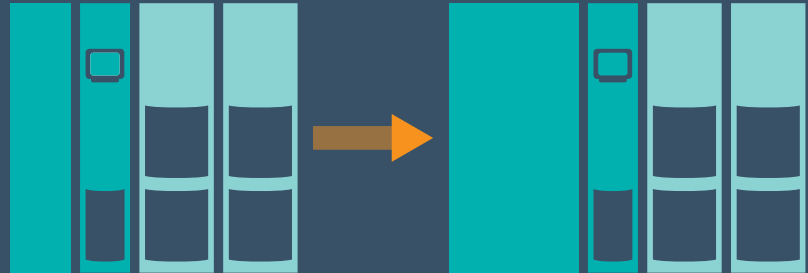
The selectivity of the electrical distribution needs to be designed so that a shorted load branch is cleared effectively, not affecting the other load branches. The UPS bypass capacity needs to match the installation requirements for selectivity from day one – even in scalable designs. The centralized topology of Eaton modular UPS is ideal for scalable systems, as it provides full bypass capacity from day one, whereas monoblock UPS or modular designs with static switch in every power module can have a severe negative impact on the selectivity of the system due to undersized static bypass. This can compromise the availability of the overall system.



UPS as part of the electrical infrastructure

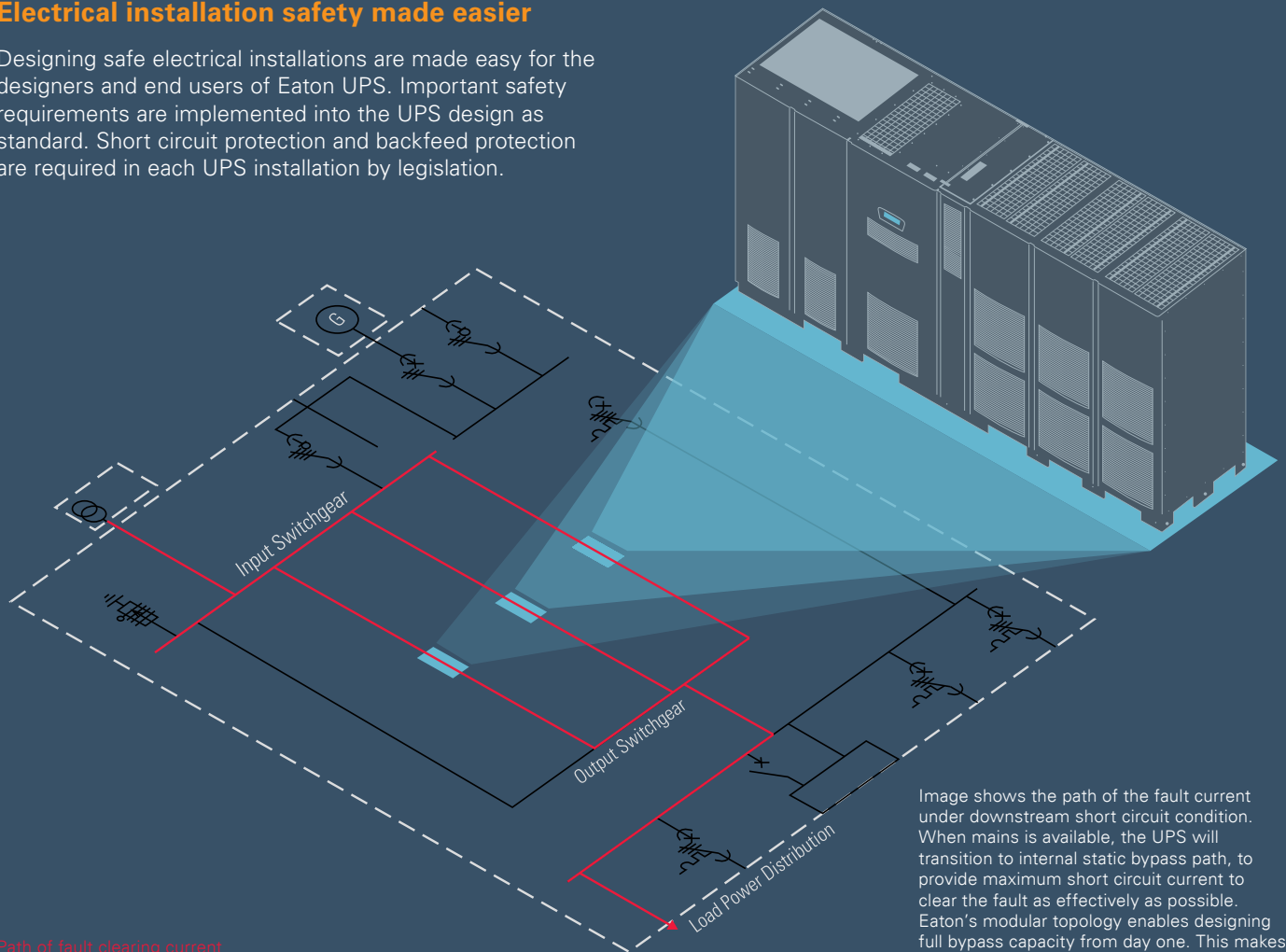
Matching fault current levels

The UPS double conversion capacity and static bypass capacity of Eaton modular UPS can be sized separately, to match higher fault current levels of the installation. This enables matching of the UPS to site requirements, without the need to invest in extra UPS capacity in case of high fault current levels.



Electrical installation safety made easier

Designing safe electrical installations are made easy for the designers and end users of Eaton UPS. Important safety requirements are implemented into the UPS design as standard. Short circuit protection and backfeed protection are required in each UPS installation by legislation.



Path of fault clearing current

Image shows the path of the fault current under downstream short circuit condition. When mains is available, the UPS will transition to internal static bypass path, to provide maximum short circuit current to clear the fault as effectively as possible. Eaton's modular topology enables designing full bypass capacity from day one. This makes it simple to integrate the UPS as part of the electrical infrastructure, since available fault current levels and selectivity parameters are unchanged – also in scalable designs.



Short circuit withstand, Icc

The installation fault current levels are determined by the incoming transformer. Eaton modular UPSs are validated for short circuit withstand current of 100kA, which is suitable for practically all installations. The UPSs come with integrated Bussmann ultra-rapid fuses in the bypass path. Eaton UPS are guaranteed to be safe and compatible with any installation fault current levels, no conditions apply.

Backfeed protection

Eaton UPS come with integrated backfeed isolation contactor in the bypass path as standard. This ensures that, in case of a shorted thyristor, it can be isolated and the UPS does not backfeed power upstream to UPS input terminals. In addition, a static switch fault will have no effect to the double conversion operation of the UPS, removing the single point of failure.

Easy to deploy

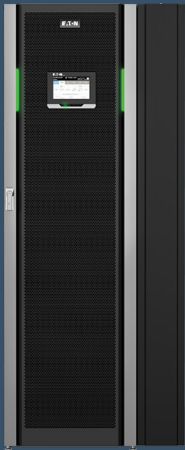
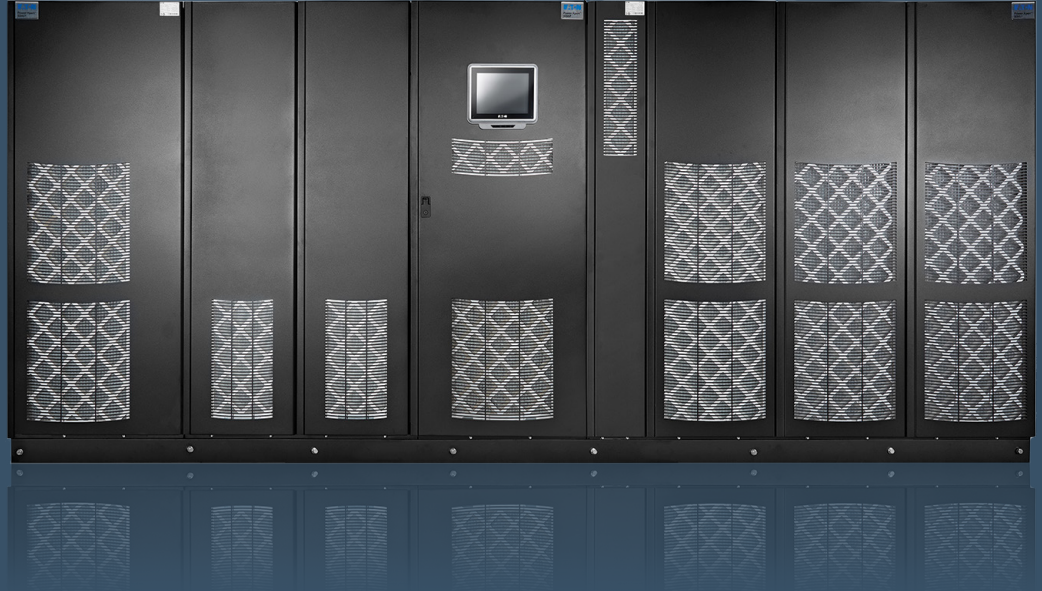
Eaton UPS are easy to deploy, since the flexible modular structure enables matching site specific requirement for both bypass and UPS capacity. Eaton static bypass comes with integrated short-circuit protective fuse and backfeed isolation contactor, which are important safety components within the electrical installation. There's no need to design and fit them into the upstream panel. They are pre-designed, pre-tested and pre-installed in all Eaton modular UPS.

Eaton modular UPS suits your need

Eaton UPS can be fitted to serve requirements ranging from 8 kVA to 6000 kVA.

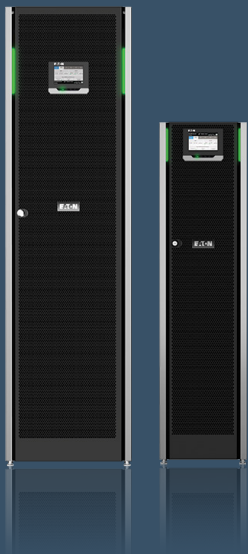
Power Xpert 9395P

Power range:	275 - 1200 kVA
Module rating	300 kVA



Eaton 93PM

Power range:	30 - 500 kVA
Module rating	50 kW



Eaton 93PS

Power range: 8 - 40 kVA
Module rating 15 kW & 20 kW

Eaton 9PHD

Power range: 30 - 200 kVA
Module rating 50 kW



Eaton 93PS Marine

Power range: 8 - 40 kVA
Module rating 15 kW & 20 kW





For more information, visit www.eaton.eu/electrical

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