



Eaton 9PHD 30 – 200kW Industrial UPS

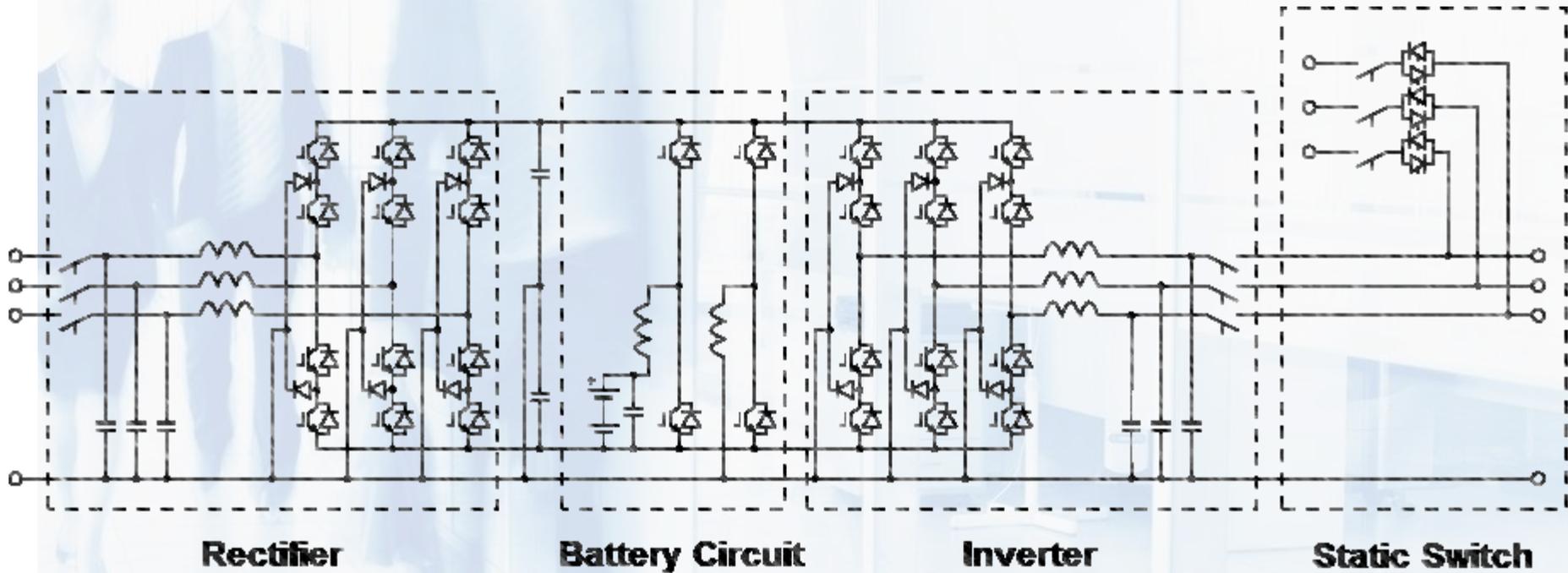
Strong and smart power protection
for demanding environments

Eaton 9PHD Industrial UPS overview

- 3 Phase online double conversion UPS
- Power range 30-200kVA
- Up to 8 units can be paralleled for a 1,6MW system power
- Unity power factor
- Efficiency up to 96,7% in Online mode
- High efficiency mode over 99%
- Can be customized to meet various industrial application requirements
- Modular structure
- Wide range of accesories
- Designed, manufactured and tested in Finland



Eaton 9PHD UPS



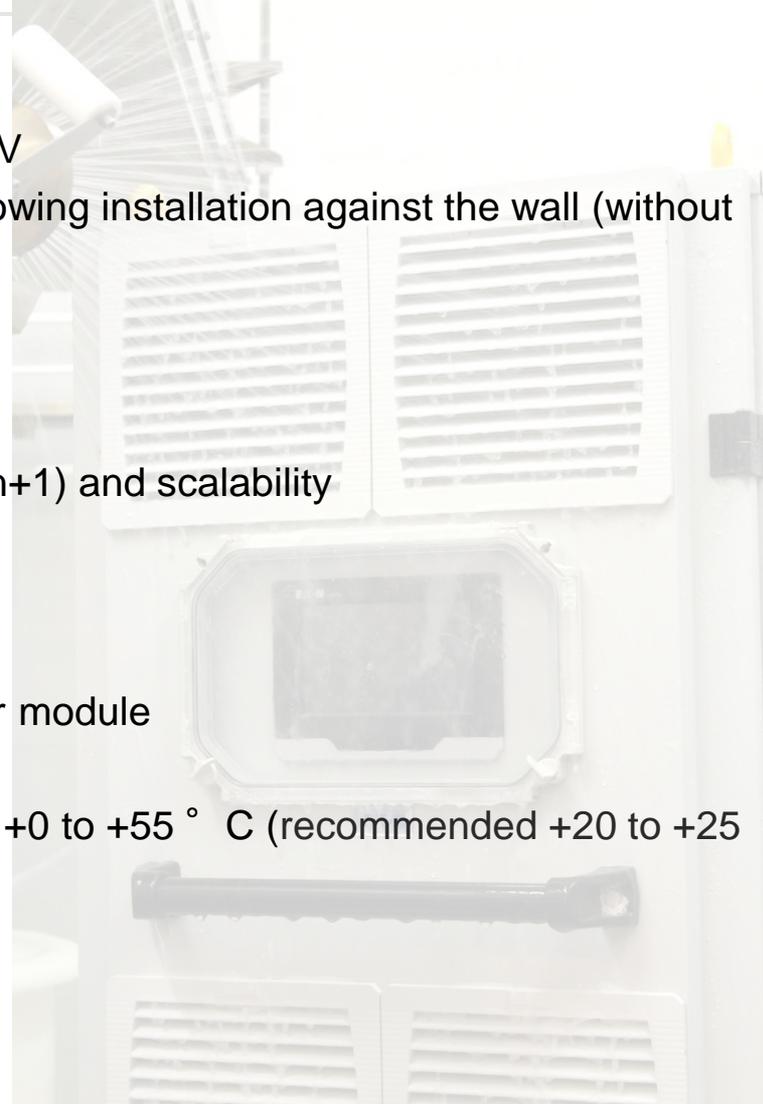
Modern UPS for flexible, reliable and efficient operation

Eaton 9PHD Industrial UPS key features 1/2

- Electrical:
 - 30, 40 & 50kW power modules for a power range of 30-200kW
 - Input voltage without transformers 380V - 480V
 - Input voltage with optional internal transformers 208 – 690V
 - Internal transformers available up to 100kW models (50kW narrow frame or 100kW wide frame)
 - Three phase input/output compatible with 3 wire, 4 wire or 4 wire IT networks
 - Battery voltage 432 V (36 blocks) or 480 V (40 blocks)
- Mechanical:
 - 1,5mm thick zinc coated steel plating
 - Powder coated to RAL7035 (other colors as available as option)
 - Protected against dirt, dust and water with IP-class options of IP23, IP33 & IP54
 - Strong seismic proof cabinet solution
 - Pre-engineered and classification society tested vibration dumpers for marine use
 - Cabling from below and back (small frame) or top (large frame)
 - Cabling to accessory cabinet from side
 - Two frame sizes, narrow frame 30 - 100kW or wide frame 70 - 200kW
 - Front access, fully front serviceable and large customer connection space to support halogen free and double cabling

Eaton 9PHD Industrial UPS key features 2/2

- Other:
 - Internal MBS available up to 150kW
 - Input switch available up to 150kW & 380V – 415V
 - Optional top air exhaust for front to top airflow allowing installation against the wall (without rear clearing space)
 - Battery start feature
 - Halogen free cabling
 - Lifting lugs for easier unit handling at site
 - Modular design allowing inherently redundancy (n+1) and scalability
 - Protected touch screen HMI display
 - Optional 24V EPO input
 - Conformally coated PCBs
 - Redundant, monitored cooling fans in each power module
 - EF-monitoring option
 - Can be operated in an ambient temperature from +0 to +55 ° C (recommended +20 to +25 °C)
 - Enhanced overload capacity option
 - Redundant monitored cooling fans



Eaton 9PHD Dimensional Drawings 1/2

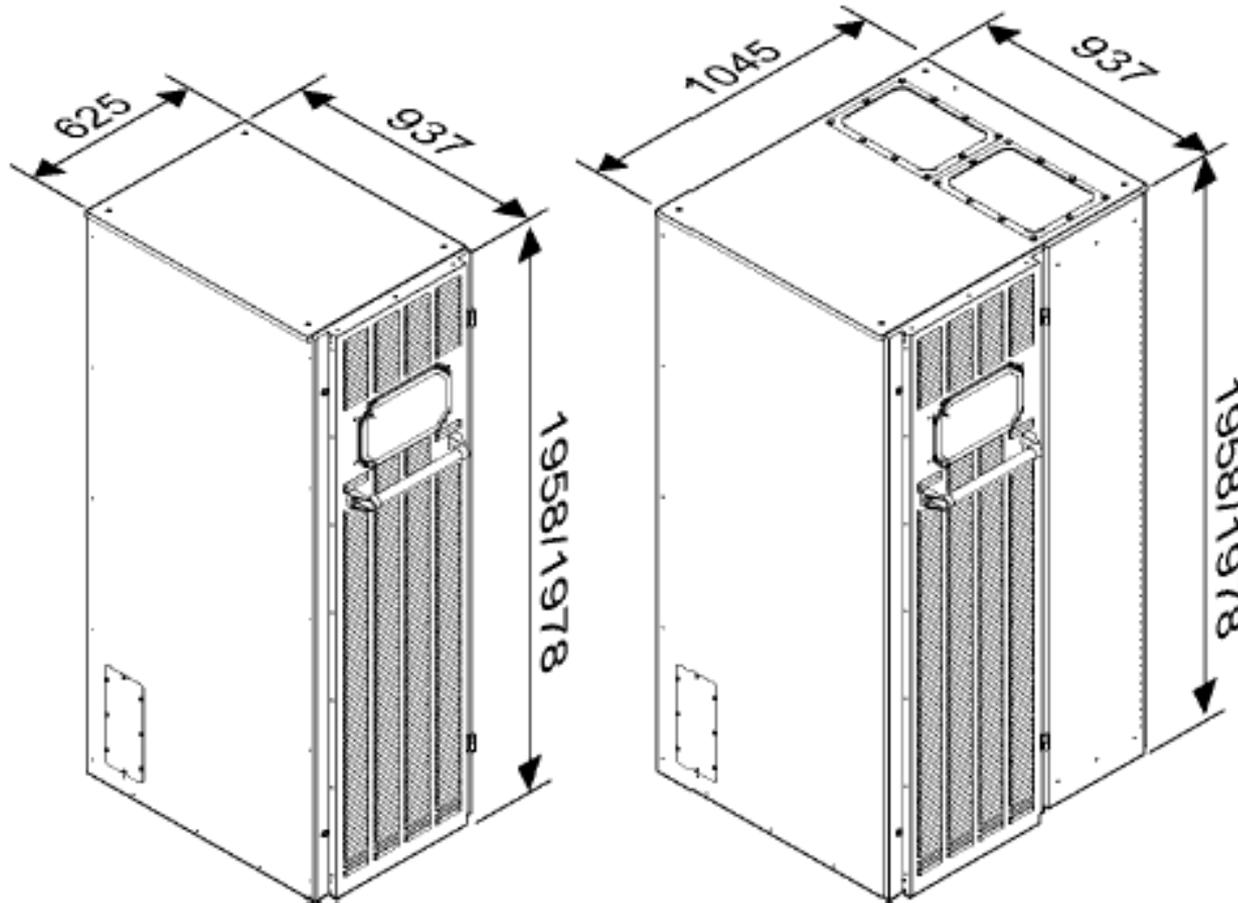


Figure 1. Dimensions of Eaton 9PHD 30–100 kW (80–100 kW without internal transformer) and 80–200 kW (80–100 kW with internal transformer) UPS with IP23/33 rating (height with casters / with vibration dampers)

Eaton 9PHD Dimensional Drawings 2/2

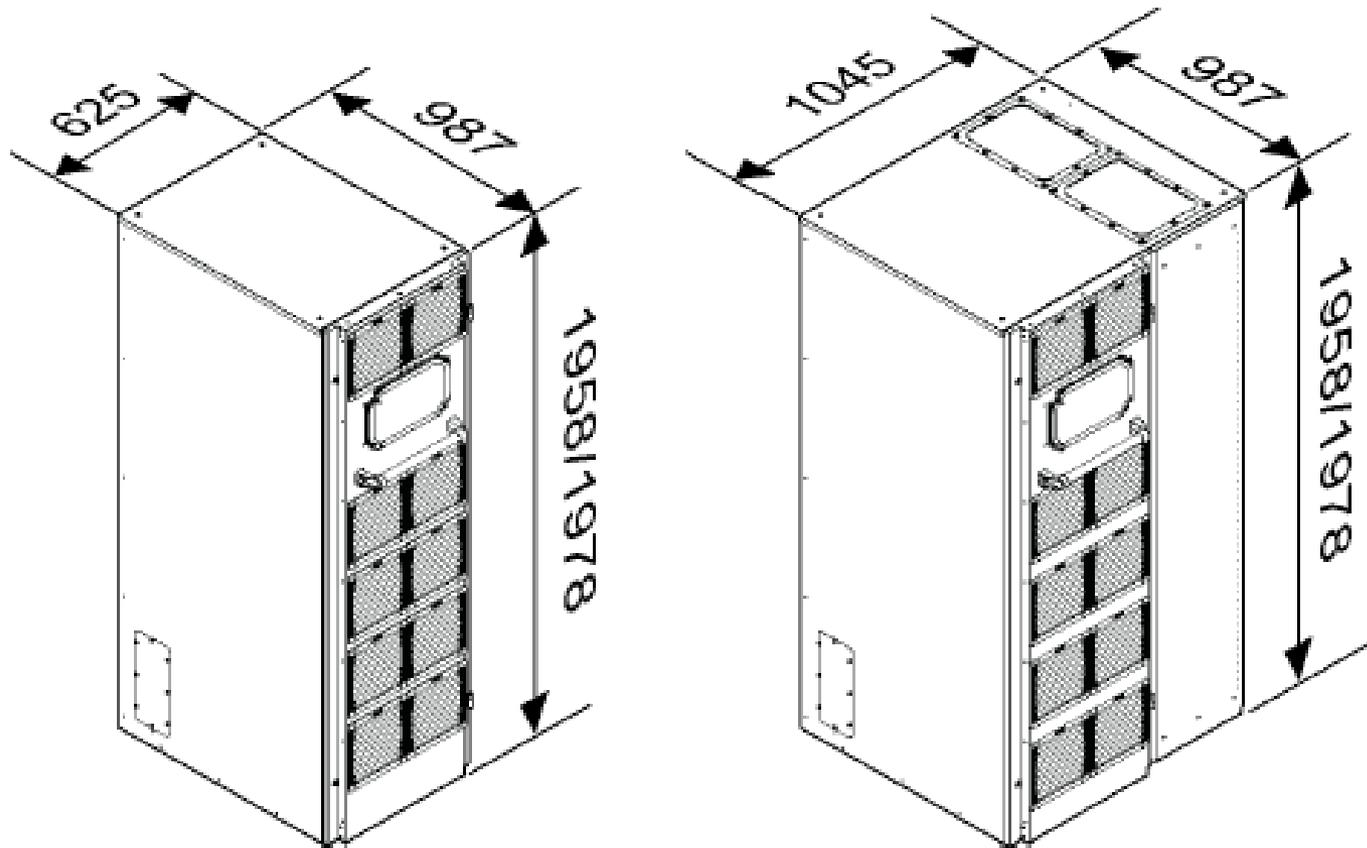
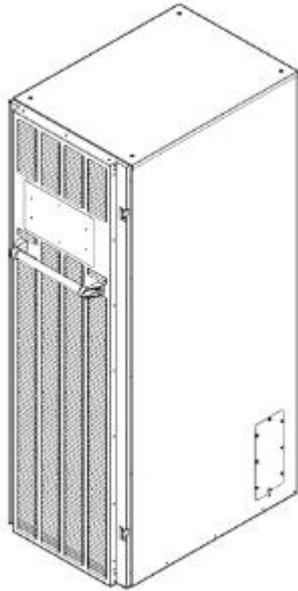


Figure 2. Dimensions of Eaton 9PHD 30–100 kW (80–100 kW without internal transformer) and 80–200 kW (80–100 kW with internal transformer) UPS with IP54 rating (height with casters / with vibration dampers)

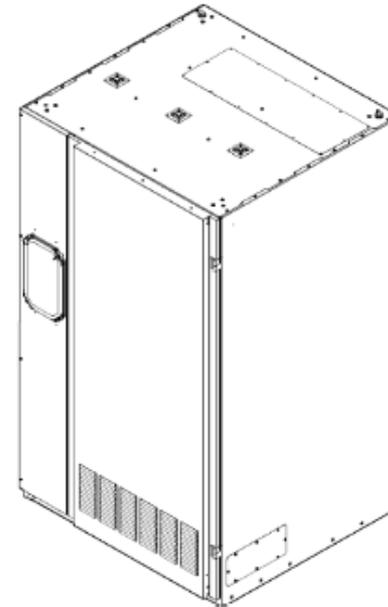
Eaton 9PHD Accessories

- Two sizes of line and mach battery cabinets
 - Same IP-class options as for the UPS
 - The large cabinet is available as a seismic proof version
 - Built in NTC temperature sensor supporting temperature compensated charging
- Line and mach transformer cabinet
 - Same IP and vibration/seismic options as with the UPS
 - Can house a set of two transformers up to power of 100kW+120kW
- Internal ATS
- Top air exhaust kit for UPS and trafo cabinet
 - Adds 184mm (IP23/33) or 143mm (IP54) to the unit depth but allows installation against the wall
 - Otherwise the needed clearances are 200mm (30-50kW) or 300mm (80-200kW)
- Same MS communication card options as with 93PM

9PHD Accessory Cabinet Dimensions



Small battery cabinet & trafo cabinet



Large battery cabinet

Dimensions (W x D x H)	Transformer cabinet	EBC-L
IP23/33 cabinet dimensions	625 x 937 x 1,958/1,978*	1,118 x 1,091 x 1,958/1,978*
IP54 cabinet dimensions	625 x 987 x 1,958/1,978*	1,118x 1,145 x 1,958/1,978*
*Height for models with casters: 1,958. Height for models with vibration dampers: 1,978.		

The Value of the Features



Eaton 9PHD for varying electrical networks

If the use of transformer can be avoided

- System efficiency improved ~50%
- System weight reduced ~50%
- System size reduced significantly
- Price reduced 2,8 – 4,3 k€

With internal transformer

- Footprint reduced ~50%
- Installation work reduced ~50%

Flexibility in performance

9PHD 30-200 kW

9PHD 30-160 kW
increased overload capacity

Overload capability at ambient 40 °C (on inverter)	10 min 102 – 110% load 60 s 111 – 125% load 10 s 126 – 150% load 300 ms > 150% load	60 min 102 – 110% load 10 min 111 – 125% load 60 s 126 – 150% load 300 ms > 150% load
Overload capability at ambient 40 °C (in the stored energy mode)	10 min 102 – 110% load 60 s 111 – 125% load 300 ms > 126% load	60 min 102 – 110% load 10 min 111 – 125% load 300 ms > 126% load
Overload capability at ambient 40 °C (in the bypass mode)	Continuous ≤ 125% load 10 ms 1,000% load Note! Bypass fuses may limit the overload capability. Note! Models with output transformer have limited overload capability.	Continuous ≤ 150% load 10 ms 1,250% load Note! Bypass fuses may limit the overload capability. Note! Models with output transformer have limited overload capability.

Eaton 9PHD pre-engineered for challenging environments

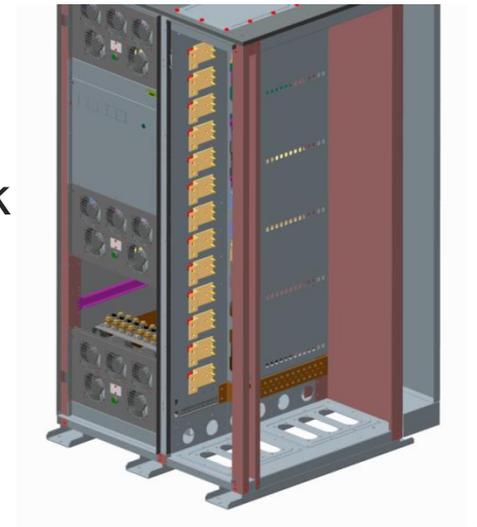
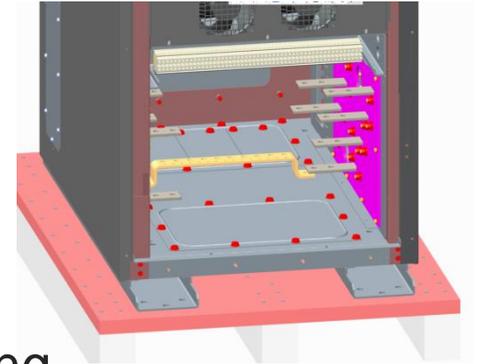
UPS can cope with:

- Dropping water
- Spraying water
- Moist air
- Dust
- High environment temperatures
- Vibration
- Seismic environments

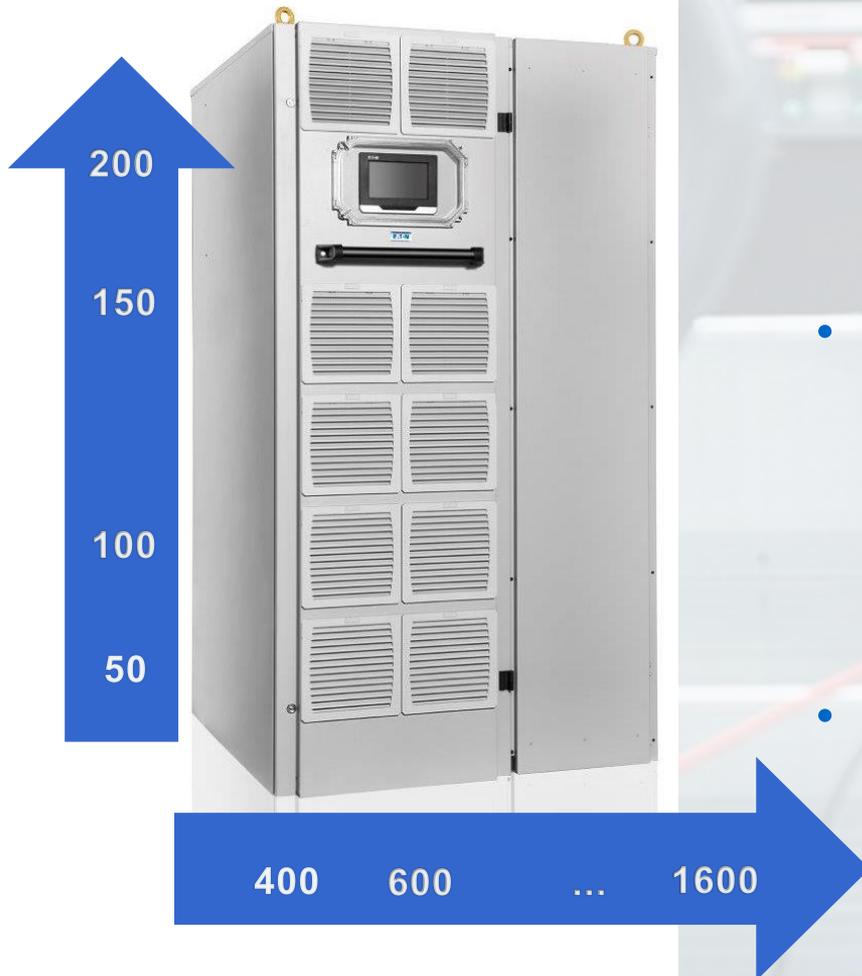


Designed with ease of installation in mind

- Large cabling area for easier connections
 - Use of halogen free cables supported
 - Use of double cables supported
 - Large PE- bar
- Lifting lugs and/or wheels for easy cabinet handling
- Air exhaust options
- Front access for installation and service
- Internal transformers for reduced installation work
- Lower installation costs



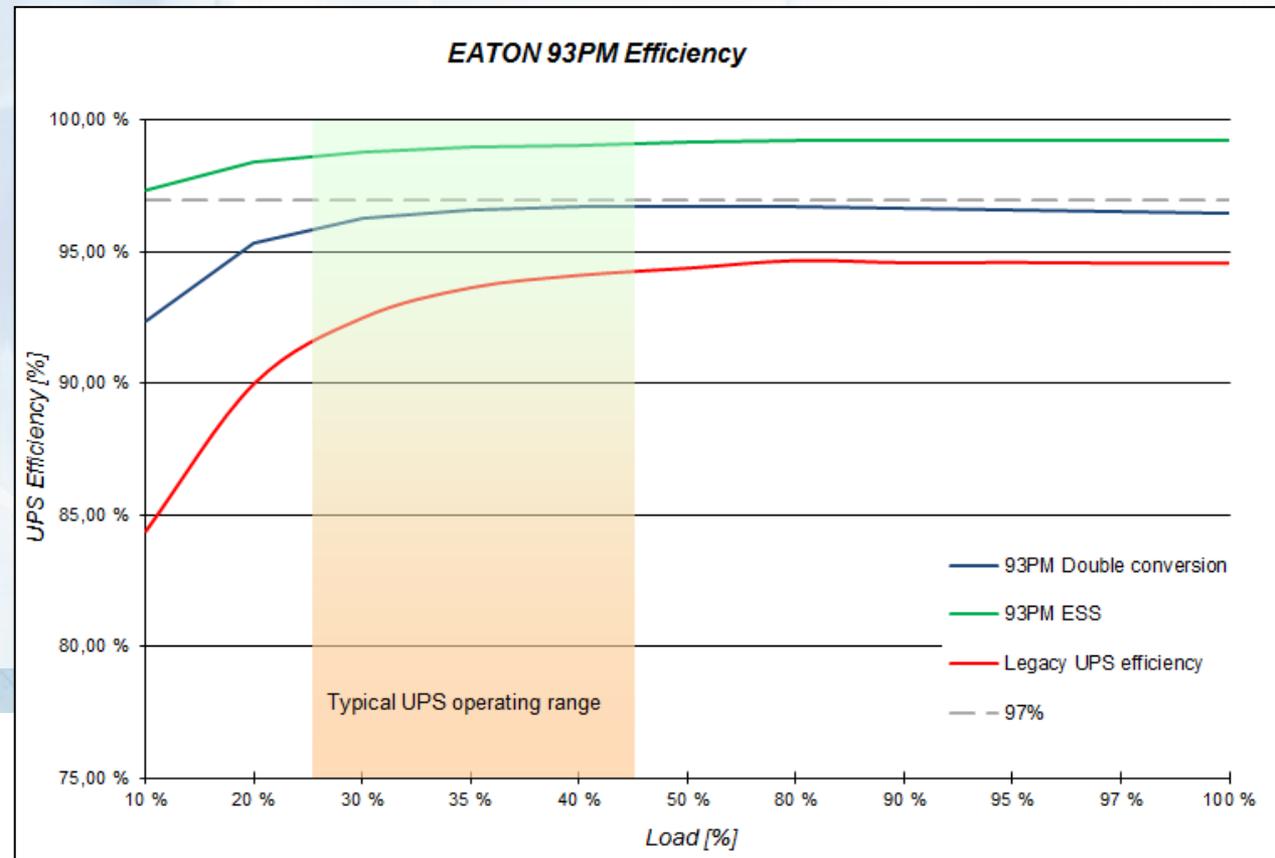
Scalability and reliability



- Scalability and flexibility
 - Reducing the amount of time required to scale up in response to increased demand from days to hours
 - Scaling up without affecting the footprint to save floorspace
- Internal redundancy for high availability
 - HotSync technology for reliable and resilient load sharing
 - Each UPM in the system operates independently
- External redundancy for improved scalability
 - Parallel up to 8x frames
 - **Total system size up to 1600kW**

Minimize your TCO with market leading efficiency

- The same Industry leading online, double conversion efficiency up to **96,7%** as with the Eaton 93PM (without input/output transformers)
- With Eaton Energy Saver System (**ESS**) efficiency up to >99%
- With Variable Module Management System (**VMMS**) online efficiency with very low load level highly increased



Tailored solutions



CPS Sales Support team at your service

- The point of contact for all application and pre-sales related support
- Special project specific ETO solutions with
 - NiCd batteries
 - Super capacitors
 - Busbars
 - Special colors
 - External transformers
 - Marine certificates

Contact:

Sales-Support-CPS-EMEA@Eaton.com



Designed, manufactured and tested in Finland
with over 50 year experience.

EATON

Powering Business Worldwide