



Eaton 9PHD Marine UPS

30–200 kW



Key applications

- Navigation systems
- Emergency Lighting
- Computer systems
- General services

Maximum energy efficiency. Minimum operating costs.

Qualified design for marine and offshore environment

- Compact design with internal transformer options
- Cabinet support to floor and wall on mounting rails with vibration dampers
- IP22 protection class and air filtration
- Front access for installation and service
- Support installation with halogen free cables and use of double cables

Lowest total cost of ownership

- The 9PHD UPS sets new standards, with an operating efficiency level up to 97% in double conversion mode resulting in significant savings in operational costs
- > 99% superior efficiency is delivered in Energy Saver System mode (ESS)
- High efficiency even when UPS load levels are low, optimized by Variable Module Management System (VMMS)
- Maximal power and energy density ensures a compact footprint. Internal transformer options are available.
- Installer friendly cabling area to reduce installation time and cost

Highly scalable and reliable

- Fault tolerant n+1 and scalable, modular architecture
- Eaton's unique Hot Sync wireless paralleling and internal redundancy ensures maximum availability and high reliability

Easy deployment

- Thermal management support allows for flexible installation against the wall
- Installation brackets with vibration dampers for marine use
- Front access and modular design allows fast MTTR (mean time to repair)
- Wide range of options and accessories available

Easy management

- The 9PHD UPS available with Web and SNMP interfaces as standard
- Intelligent Power® software integrates with leading virtualization management systems for monitoring and managing
- The intuitive user LCD interface and visual data logging provides clear information on the UPS status

EATON

Powering Business Worldwide

Eaton 9PHD Marine UPS 30–200 kW

Technical specifications

General	
UPS output power rating (1.0 p.f.)	30, 40, 50, 80, 100, 120, 150, 160, 200 kW
Efficiency in double conversion mode	Up to 97%
Efficiency in Energy Saver System (ESS)	> 99%
Inverter/rectifier topology	Transformer-free IGBT with PWM
Audible noise	30–50 kW: < 60 dBA
	80–200 kW: < 65 dBA
	ESS operation: < 47 dBA
Ambient temperature	5°C to 45°C at sea level

Input	
Input wiring	3ph + N + PE / 3ph + PE
Nominal voltage rating (configurable)	380 V-480 V, 50/60 Hz
With optional transformer	208 V- 690 V, 50/60 Hz
Input voltage range	Rectifier input + 20%, if voltage > 440 V +10% Low -15% at 100% load, -40% at 50% load without battery discharge Bypass +10% - (-15%)
Input frequency range	40-72 Hz
Input Power Factor	0.99
Input ITHD	30 kW: < 4.5%
	40-200 kW: < 3%
Soft start capability	Yes
Internal backfeed protection	Yes

Battery	
Battery type	VRLA, Ni-Cd
Charging method	ABM technology or Float
Temperature compensation	Optional
Battery nominal voltage (VRLA)	From 432 V (36 x 12 V, 216 cells) to 480 V (40 x 12 V, 240 cells) Note: Strings with different battery voltage may not be paralleled
Charging current maximum*	30–50 kW 29.3 A
	80–100 kW 58.6 A
	120–150 kW 87.9 A
	160–200 kW 117.2 A
Battery start capability	Yes

* when load level ≤ 40 kW/UPM

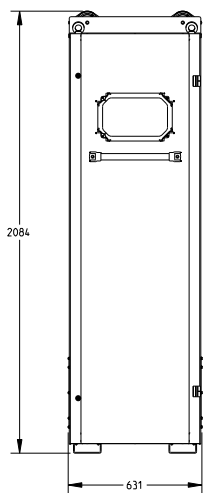
Output	
Output wiring	3ph + N + PE/ 3ph + PE
Nominal voltage rating (configurable)	380 V-480 V, 50/60 Hz
With optional transformer	208 V- 690 V, 50/60 Hz
Output UTHD	< 1% (100% linear load)
	< 5% (reference non-linear load)
Rated output power factor	1.0
Permitted load power factor	0.8 lagging - 0.8 leading
Overload on inverter	10 min 102-110%;
	60 sec 111-125%;
	10 sec 126-150% 300 ms > 150%.
On battery mode 300 ms > 126%	
Overload when bypass available	Continuous < 125%, 10 ms 1000% Note: Bypass fuses may limit the overload capability

Accessories	
Marine accessories for UPS:	
Internal transformers, cabinet protection IP23, IP33 or IP54, lifting lugs	
Accessory cabinets:	
Matching battery cabinets, matching transformer cabinets, external bypass switches	
Communication options:	
Web/SNMP, ModBus/Jbus, Industrial Relay	

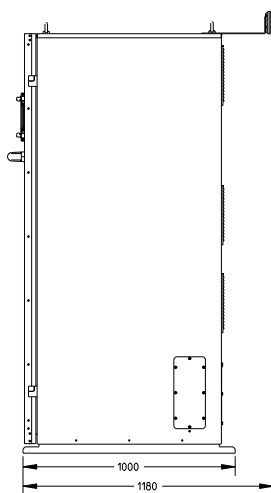
Communications	
MiniSlot	4 communication bays
Network/SNMP interface	Yes, standard
Serial ports	Built-in host and device USB
Relay inputs/outputs	5 relay inputs and dedicated EPO 1 relay output

Compliance with standards	
Safety (CB certified)	IEC 62040-1
EMC	IEC 62040-2
Performance	IEC 62040-3
Marine class certificates are available from any class example: DNV, ABS, Lloyds Register Bueray Veritas etc	

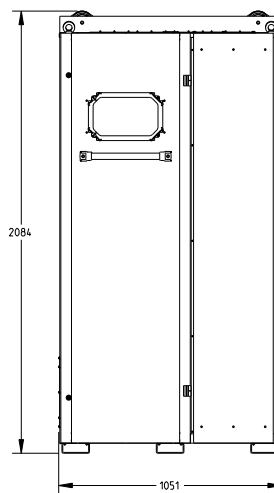
Due to continuous product improvement programmes, specifications are subject to change without notice.



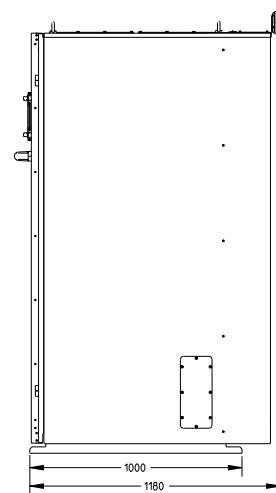
9PHD Marine 30kW-100kW



Rear Exhaust



9PHD Marine 80kW-200kW



Top Exhaust