Eaton 9PHD Marine UPS



Designed, Manufactured and Tested in Finland



Strong and Smart Power Protection Designed and Certified for Marine and Offshore

Designed for marine and offshore environments

- Marine certificate from any marine classification society
- Marine vibration tested units
- Halogen free cables
- IP23 protection
- Conformally coated PCB boards
- Cable area designed to support marine cabling practices
- Vibration dampers and installation brackets for floor and wall
- Door handle, stopper and triangle key included

Strong design for demanding environments

- Protection against dirt, dust, water and moisture with cover options up to IP54
- 1.5mm cover plates for robust use
- Protection for touch screen display

Smart technology for maximizing reliability

- Large touch screen display for easy operation and reduced risk of human error
- Modular design allows building fault tolerant N+1 units
- · Redundant monitored cooling fans in each power module
- Battery start feature
- Eaton's unique Hot Sync wireless paralleling for building n+1 systems with several UPS units

Smart technology for minimizing operating costs

- The 9PHD UPS sets new standards with an operating efficiency level up to 97% in double conversion mode
- > 99% superior efficiency is delivered in Energy Saver System mode (ESS)
- Power factor 1 increases unit power by 10-20% compared to average UPS

Easy deployment for optimizing installation costs

- · Front access for installation and service
- Cabinet supports use of halogen free cables, double cables and large cables for installation
- Lifting lugs included for easier unit handling during installation
- Suitable for 3-wire and 4-wire networks and voltage range 380V-480V without transformers
- Small footprint due compact power electronics and internal transformer options

Eaton 9PHD Marine UPS 30–200 kW

Technical specifications

General			
UPS output power rating (1.0 p.f.)	30, 40, 50, 80, 100,	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	0°C to 45°C at sea level,		
	higher temperatures are optional		
Ingress protection	IP23, Optional: IP33;IP54		
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		

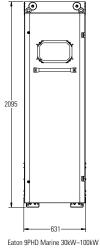
Output		
Output wiring	3ph + N + PE/ 3ph + PE	
Nominal voltage rating (configurable)	380 V-480 V, 50/60 Hz	
With optional transformer	208 V- 690 V, 50/60 Hz	
Output UTHD	<1% (100% linear load)	
	< 5% (reference non-linear load)	
Rated output power factor	1.0	
Permitted load power factor	0.8 lagging - 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		
Accessories for UPS:		
Internal transformers; Cabinet protection	n IP33, IP54; ATS automatic transfer switch; Single feed	
kit; Earth fault monitoring; 24V Emergen	cy Power Off (EPO); Special system voltages	
Accessory cabinets:		
Marine battery cabinets with long-life ba	tteries; Matching transformer cabinet for one or two	
transformers; External maintenance bypa	ss switch.	
Communication options:		
	lay	
Web/SNMP; ModBus/Jbus; Industrial Re		
Web/SNMP; ModBus/Jbus; Industrial Re Communications	-	
	4 communication bays	
Communications	4 communication bays Built-in host and device USB	
Communications MiniSlot	,	

IEC 62040-1	
IEC 62040-2	
IEC 62040-3	
	IEC 62040-2

Marine class certificates are available from any class example: DNV, ABS, Lloyds Register Bueray Veritas etc

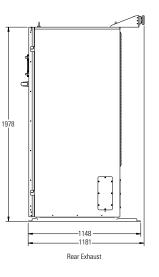
Due to continuous product imrovement programmes, specifications are subject to change without notice.

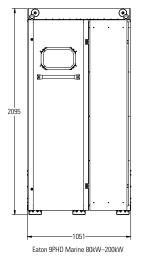
* when load level ≤ 40 kW/UPM

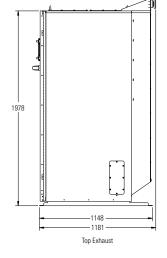


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