Eaton 93PS Marine UPS

8-40 kW

20KW 40KW

Key applications:

- Navigation
- Communication
- Automation and monitoring systems
- Auxiliary power systems
- Safety systems
- Distributed UPS systems
- Peak shaving
- EPOS

Ease of deployment

- Spacious power cabling area at the bottom of the unit
- Factory installed and tested internal transformers reduce footprint and cabling at site by 50%
- Best in class footprint and power density for easier floor planning and space saving
- Possibility to design inherently redundant systems in one frame
- Back feed protection and bypass fuses included by default for easier planning and secured safety
- Ships with any classification society certificate as requested
- Engineering package to help planning in 3D or 2D environment
- Pre- and after-sales support assisting you from quoting to decommissioning

Ease of maintenance

- Hot Swap power modules means typical MTTR=0h
- Training + pre-defined spare part kits for basic UPS service
- Fully front serviceable
- Mini Slot extension cards for remote monitoring and management
- No replacement of DC caps during the product design life
- Easy Capacity Test to do full load test without the need for load bank
- Eaton Advanced Battery Management (ABM) maximizes the battery life while providing automatic diagnostics of battery health
- Worldwide coverage of Eaton service at your service 24/7

Economical to operate

- Minimal losses and associated costs due to market leading efficiency reaching above 96%
- Cuts down operational costs by up to 50% compared to a legacy UPS
- Saves up to 650 barrels of marine diesel per UPS
- Flat efficiency curve means high efficiency regardless of the load level
- Compatibility with VRLA, Ni-Cd, Li-Ion or super capacitors allows for choosing the optimal energy or power reserve for your application

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Technical Specification

General	
Output power rating (PF 1.0)	8, 10, 15, 20, 30, 40 kW
External paralleling	Up to 4 units with HotSync technology
Inherent redundancy	Up to 20 kW with HotSync technology
Efficiency in double-conversion mode	Up to 96.0%
Efficiency in Energy Saver System mode	Up to 98.8%
UPS topology	Double conversion
UPS performance classification	VFI-SS-111
Degree of ingress protection	IP23
Standard UPS color	Industrial grey; RAL 7035
Ambient service temperature range	0°C to 45°C
Maximum service altitude	1000 m (3300 ft) above sea level at 40 °C
Acoustic noise at 1 m, in 25 °C ambient temperature, without transformers	< 60 dBA in double conversion < 47 dBA in ESS
Mean Time To Repair (MTTR)	< 8 minutes (UPM) / < 15 minutes (UPS)
RoHS/WEEE compliancy	Yes

Input	
Nominal voltage rating Input voltage with internal transformers	380 V, 400 V, 415 V 208 V - 690 V
Input frequency range	40 - 72 Hz
Input wiring	3ph+N+PE (3ph+PE with input transformer)
Input power factor	0.99
Input THDi 100% linear load	< 3%
Soft start for generators	Yes
Internal back feed protection	Yes, for rectifier and bypass lines

Output	
Output wiring	3ph+N+PE / 3ph+PE
Rated output voltage Output voltage with internal transformers	380 V, 400 V, 415 V 208 V - 690 V
Output frequency	50 Hz / 60Hz configurable
Output UTHD	< 1.5% (100% linear load), < 3.5% (100% non-linear load)
Inverter overload capacity	10 min 102 – 110% load
	60 s 111 – 125% load
	10 s 126 – 150% load
	300 ms > 150% load
Static bypass capacity	Continuous < 125% load, 20 ms 1000% load
Short-circuit capability at rated voltage	Up to 144 A / 300 ms
Rated output power factor	1.0
Load power factor range	0.8 lagging to 0.8 leading

Battery	
Battery technology	VRLA, Li-Ion, NiCd, Eaton Super Capacitors
Nominal battery voltage	336 V - 480 V
Charge current limit	
Load ≤80%	Up to 50 A, configurable
Load >80%	Up to 30 A, configurable
Charging method	Eaton ABM technology or float
Boost charge function	Yes
Temperature compensation	Yes
Battery start option	Yes

Communications	
MiniSlots	2 communication bays for Web/SNMP, ModBus/Jbus & Industrial realy
Standard connectivity ports	Device USB and Host USB, RS-232 service port, relay output, 5 building alarm inputs, 1 relay output and a dedicated EPO

Accesories	
Accessories for UPS	Internal transformers; Single feed kit; Earth fault monitoring; 24V Emergency Power Off (EPO); Custom system and battery voltages; Custom colors

Compliance with standards	
Safety (CB certified)	IEC 62040-1
EMC	IEC 62040-2
Performance	IEC 62040-3
RoHS	EU directive 2011/65/EU
WEEE	EU directive 2012/19/EU
Environmental Aspects - Requirements and Reporting	IEC 62040-4, EN 50581

Due to continuous product imrovement programmes, specifications are subject to change without notice. For product specific specifications, contact Eaton sales representatives.

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