

EATON

Powerware

Powerware 9390M Uninterruptible Power System for Marine Applications

Product Focus

Single UPS solutions 60, 80, 100, 120 and 160kVA

Hot Sync® parallel redundant solutions up to 3+1 configuration



Features

- Compact design for saving space
- Easy to install, mounting rails can be bolted or welded to the deck/bulk head
- IP22 protection class
- Vibration absorbers under and at the back of the cabinet
- Maintenance from the front
- Active, power factor corrected rectifier, power factor 0.99, harmonics less than 5% THD(i)
- High performance PWM inverter providing output power factor of 0.9
- Internal automatic static bypass switch
- Advanced Battery Management (ABM™) for monitoring and improved battery life time
- Configurable and multilingual LCD control panel with backlit graphical mimic screen
- Versatile connectivity options for remote monitoring
- Hot Sync® redundancy/capacity up to 3+1 configuration
- Configurable to frequency converter operation (50>60Hz and 60>50Hz)

Product Snapshot

Technology: Series 9 (double conversion on-line)
Rating: 40-160 kVA at 0.9 p.f.
Voltage: 400 V 50/60 Hz
Options: IP22, vibration absorbers, frequency converter

Powerware® 9390M series UPS is specially designed for marine installations. The 9390M can be used for any load application of this power range on board the vessels. They are widely used to protect the operation of the critical equipment such as emergency lighting, general services and computer systems.

The 9390M enables optimal power protection for modern 0.9 p.f. rated, critical equipment without the needs of over sizing. The 9390M is extremely "mains-friendly" and does not interfere with other critical equipment in the same network due to its high 0.99 input power factor and low <5% THD(i).

All models are adapted for use in the IT mains, have hardened mechanical design, an IP22 cabinet, mechanical shock absorbers and they meet the classification societies' safety requirements.

The 9390M is built into one cabinet that houses all the electronics: rectifier, inverter, static bypass and microprocessor control. This

configuration allows the entire system to be controlled as one integral device. This leads to higher reliability than using separate power converters. It also saves plenty of valuable space, allowing easy installation.

Eaton's patented Hot Sync® technology makes it possible to parallel one or more Powerware 9390M UPS units to increase availability. Hot Sync enables load sharing without a communication line, thus eliminating a single point of failure. The 9390M also features the unique Advanced Battery Management (ABM) that charges batteries only when necessary, thus increasing battery life by up to 50%.

Eaton has more than 30 years of experience in supplying the marine industry with Uninterruptible Power Systems (UPS). Eaton integrates a full line of power conversion products and systems, power management software, remote monitoring, turnkey integration services and site support.

Technical Specifications

POWERWARE 9390M MARINE UPS

General	Rating	60-160 kVA 0.9 p.f.
	Efficiency	94% without transformer
	Audible noise	<65 dB (A)
Input for UPS	Nominal voltage	400 V -15% +20% (with external input transformer e.g. 230, 440, 690 VAC)
	Frequency	45-65 Hz
	Power factor	0.99
Output for UPS	Selectable voltage	380/400/415 VAC (with external input transformer e.g. 230, 440, 690 VAC)
	Regulation	±1%
	Power factor	0.9
Battery	Type	Maintenance free VRLA batteries
	Battery charging	Advanced Battery Management (ABM™)
	Battery voltage	480 V (40 blocks)
Options	XSlot connectivity, isolation transformers, parallel cabinets, external mechanical bypass switch 10 year battery cabinets and racks	
Markings	CE, Classification survey report on request	
Colour	RAL 7035, other colours on request	

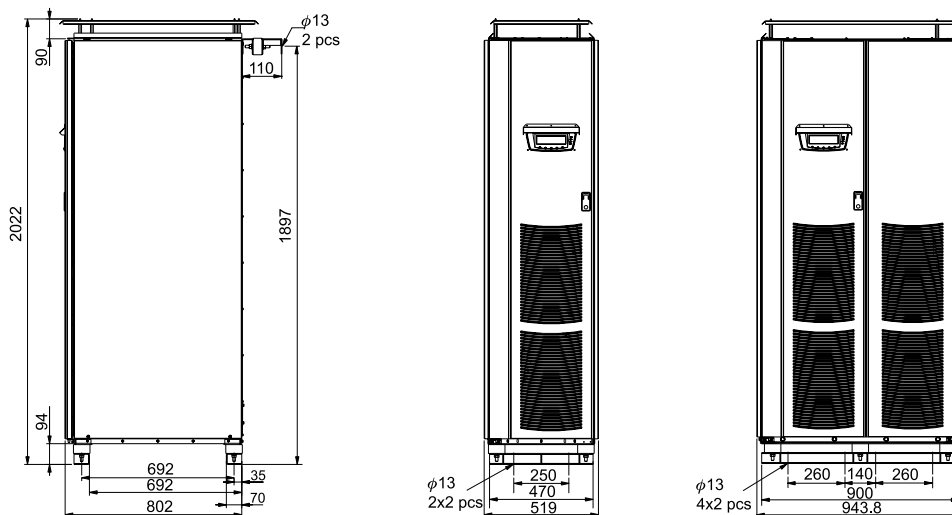
Standard UPS

Description	Rating	Dimensions (HxWxD)	Weight
Powerware 9390-60-U-M	60 kVA / 54 kW	2022x519x808 (+110) mm	363 kg
Powerware 9390-80-N-M	80 kVA / 72 kW	2022x944x808 (+110) mm	363 kg
Powerware 9390-100-U-M	100 kVA / 90 kW	2022x944x808 (+110) mm	485 kg
Powerware 9390-120-N-M	120 kVA / 108 kW	2022x944x808 (+110) mm	485 kg
Powerware 9390-120-U-M	120 kVA / 108 kW	2022x944x808 (+110) mm	585 kg
Powerware 9390-160-N-M	160 kVA / 144 kW	2022x944x808 (+110) mm	585 kg

Standard external battery

Description	Rating	Dimensions (HxWxD)	Weight
9390-BAT-M-S-40x38Ah	38 Ah	2022x575x808 (+110) mm	740 kg
9390-BAT-M-S-200	53 Ah	2022x575x808 (+110) mm	1216 kg
9390-BAT-M-40x55Ah	55 Ah	2022x1125x808 (+110) mm	1330 kg
9390-BAT-M-40x67Ah	67 Ah	2022x1125x808 (+110) mm	1490 kg
9390-BAT-M-280	83 Ah	2022x1125x808 (+110) mm	1504 kg
9390-BAT-M-330	94 Ah	2022x1125x808 (+110) mm	1685 kg
9390-BAT-M-500	130 Ah	2022x1125x808 (+110) mm	2248 kg
9390-BAT-M-40x125Ah	125 Ah	2022x1125x808 (+110) mm	2410 kg

See runtime from the runtime specification.



In the interests of continual product improvement all specifications are subject to change without notice.

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Mailing address:
Powerware Products and Services,
Marketing
P.o. Box 54, 02921 Espoo, FINLAND
Tel: +358 9 452 661
Fax: +358 9 452 66396
emea@powerware.com
http://www.powerware.com

DENMARK
Tel: +45 3686 7910
denmark.sales@powerware.com

FINLAND
Tel: +358 9 452 661
finland.sales@powerware.com

FRANCE
Tel: +33 1 60 12 74 00
powerware.france@powerware.com

GERMANY
Tel: +49 7841 6040
info.germany@powerware.com

ITALY
Tel: +39 02 66 04 05 40
info@powerware.it

NORWAY
Tel: +47 23 03 65 50
norway.sales@powerware.com

UNITED STATES
Tel: +1 919 872 3020
info@powerware.com

CHINA
Tel: +86 21 6361 5599

UNITED KINGDOM
Tel: +44 1753-608 700
powerware.help@powerware.com

SINGAPORE
Tel: +65 6829 8888
eatonSEA@eaton.com



Powerware