



PDS Design Solutions Limited

Powerware 9155M Uninterruptible Power System for Marine Applications

Product Focus

Single UPS solutions 8, 10, 12 and 15 kVA

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 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
- Internal mechanical 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)

Powerware® 9155M series UPSs are specially designed for marine installations. The 9155M can be used for any onboard load application in this power range. The various 9155M models are widely used to protect the operation of critical equipment such as navigation, communication, integrated bridge, ship automation and computer systems.

The 9155M enables optimal power protection for modern 0.9 p.f. rated critical equipment without the needs of oversizing. The 9155M 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 meet the classification societies' safety requirements.

The 9155M 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 9155M UPS units to increase availability. Hot Sync enables load sharing without a communication line, thus eliminating a single point of failure. The 9155M 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 9155M MARINE UPS

General	
Output rating	8-10 kVA 0.9 p.f. (1-phase input) 8-15 kVA 0.9 p.f. (3-phase input)
Efficiency	up to 92%
Audible noise	<50 dB (A)
Input voltage depends on input transformer	
Nominal voltage for UPS	230/400 V (3-phase input) ± 20% 230 V (1-phase input) ± 20%
Frequency	45-65 Hz
Power factor	0,99 (<5% THD(i) at nominal load)
Output	
Selectable voltage	220/230/240 VAC; 50 or 60 Hz
Regulation	±2% static
Power factor	0.9 (e.g. 9 kW at 10 kVA)
Colour	RAL 7035, other colours on request

Battery	
Type	Maintenance free VRLA batteries
Battery charging	Advanced Battery Management (ABM™)
Temp. compensation	Standard
Battery voltage	384V (32 blocks)
Charging current	3 A (default), max. 25 A
Options	
	Isolation transformers, Long-life batteries, Hot Sync tie cabinet, XSlot connectivity (potential free relays, ModBus, Web/SNMP)
Markings	
	CE, Classification survey report onrequest
Communication	
XSlot	2 communication bays
Serial ports	1 available
Inputs/Outputs	2/1 programmable

Stand-alone UPS with 1-phase input

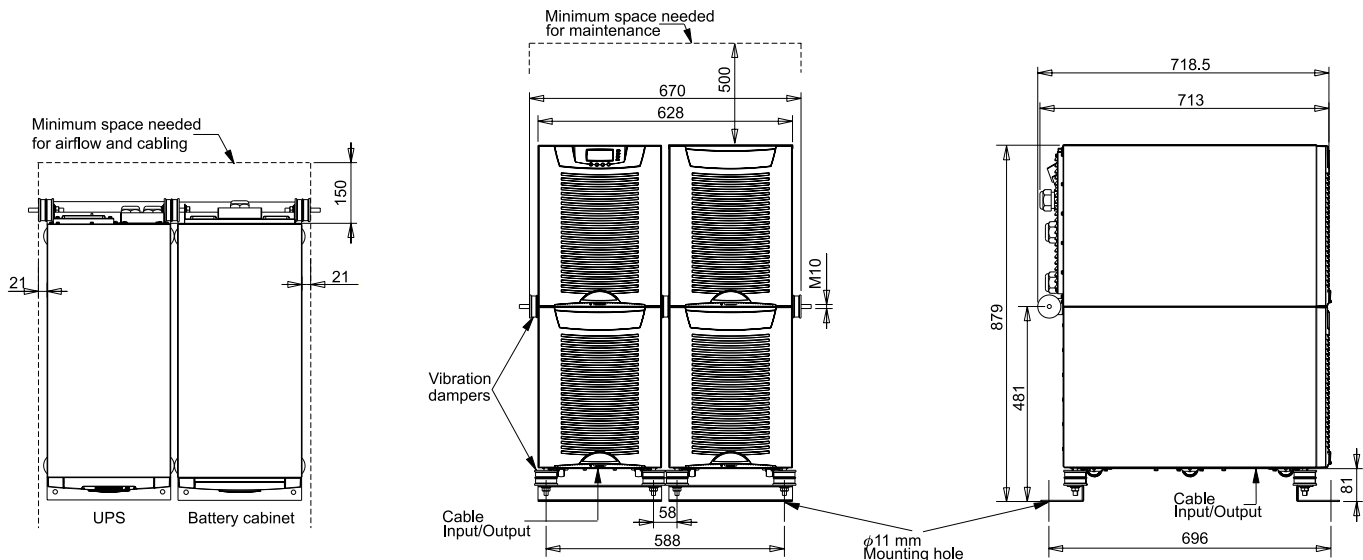
Description	Rating	Dimensions (HxWxD)	Weight with input transformer
9155-8-ST-M	8 kVA / 7.2 kW	879x347x702 (+150) mm	155 kg 165 kg
9155-10-ST-M	10 kVA / 9 kW	879x347x702 (+150) mm	160 kg 170 kg

Stand-alone UPS with 3-phase input

Description	Rating	Dimensions (HxWxD)	Weight with input transformer
9155-8-NT-M	8 kVA / 7.2 kW	879x347x702 (+150) mm	155 kg 165 kg
9155-10-NT-M	10 kVA / 9 kW	879x347x702 (+150) mm	160 kg 170 kg
9155-12-NT-M	12 kVA / 10.8 kW	879x347x702 (+150) mm	165 kg 175 kg
9155-15-NT-M	15 kVA / 13.5 kW	879x347x702 (+150) mm	165 kg 175 kg

External battery cabinets

Description	Rating	Back-up	Dimensions (HxWxD)	Weight
9X55-BAT-M-64x7Ah	2x32x7 Ah	See runtime spec.	879x347x699 (+153) mm	205 kg
9X55-BAT-M-96x7Ah	3x32x7 Ah	See runtime spec.	1277x347x699 (+153) mm	320 kg



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

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