

ABB Marine UPS

Reliable backup power for Marine, Offshore and other demanding environments



ABB Marine UPS provides the backup power to restart your essential machinery after a power failure, so that the consequences do not escalate to a total blackout.

The ABB Marine Uninterrupted Power Supply is an online, double-conversion uninterruptable power supply system.

Built for marine power: The compact size and robust design meet the demanding environment onboard ships and offshore installations.

Modular design: The modular design and versatile configuration options adapt to customer-specific needs.

Decentralized Parallel Architecture (DPA™): The Decentralized Parallel Architecture minimizes total cost of ownership by providing superior availability, scalability and flexibility. It is also extremely easy to service.

Features

- High overload capability and short-circuit protection
- Power ratings from 20 kVA to 320 kVA based on three modular configurations
- Adaptable for TN and IT electrical earthing systems
- Replace or add modules with no downtime
- Short Mean Time To Repair (MTTR)
- 99.9999% availability
- Suitable for a wide variety of temperatures (-5°C to 45°C)
- IP44 Protection against moisture, dust, chemicals
- User-friendly touch panel controls
- Remote web monitoring
- Easy & fast UPS module replacement and power upgrade
- Easy and fast installation

Benefits

01 DPA technology provides redundancy that enables maximum uptime in case of a power outage.

Increase operational reliability



Adds a redundancy layer for critical vessel systems, ensuring that you have power for critical functions when onboard power fails.

Maintain compliance



Meets the latest rules and regulations governing the use of uninterrupted power supplies in maritime environments and helps ensure future compliance.

Lower OPEX



Long service intervals and efficient maintenance. The system's standard 15 years life expectancy can be increased to 25+ with a service agreement.

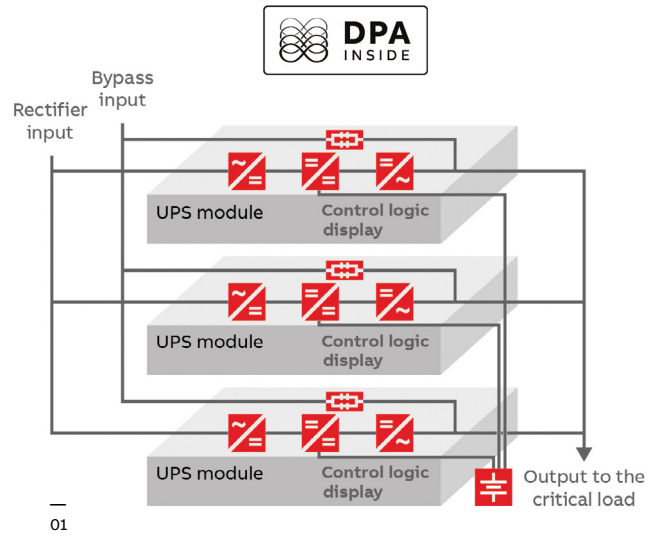


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Decentralized Parallel Architecture (DPA™)

The Decentralized Parallel Architecture (DPA™) of the ABB Marine UPS ensures clean power to critical marine applications that operate in environments with varying levels of temperature, humidity and pollution.

High system reliability. Maximum uptime.

The major benefit of the Decentralized Parallel Architecture™ is module redundancy that ensures maximum uptime in the case of a power outage.

- Each module shares no common components with the other modules and is a fully functional UPS
- Parallel system offers high system reliability and maximum uptime with 99.9999% availability

Quick installation

The ABB Marine UPS is assembled onboard quickly and easily. You ship all components, pre-assemblies and cabinet parts to the vessel for installation by ABB service personnel. No modification of the ship is needed to get the system onboard for installation.

Retrofit and service without downtime

Insert and remove MUPS modules without risk to the critical load—and without powering down. If your system is installed with redundancy (N+1), avoid transfer to the mains for fast and easy servicing. If your MUPS power requirements increase, simply add modules.

Options



Input and output transformer



Dual supply



Redundant setup (N+1 or 2N)



Long-life VRLA batteries
10-17 years @ 20°C, other options on request



ESD emergency battery shutdown



Fieldbus



Wider supply voltage and/or power range



Further customizations available on request

System comparison

General data	Single phase MUPS	Three phase MUPS
Output rated power - kVA	1–30 kVA	20–320 kVA
Output power factor	0.9	1.0
Topology	True online double conversion	True online double conversion
Cable entry	1–3 kVA on top, 6–30 kVA on bottom	Bottom entry
Communication interface	Optional: relay card, Modbus TCP/IP, Modbus RS-485, Profibus	Optional: relay card, Modbus TCP/IP, Modbus RS-485, Profibus
Earth fault detection	Yes	Yes
Input MUPS		
Nominal input voltage	208 / 220 / 230 / 240VAC*	3 × 400VAC + N*
Input voltage tolerance (ref. to 3x400 / 230V)	For loads: <100% (-23% / +20%) <80% (-33% / +20%) <60% (-43% / +20%)	For loads: <100% (-15% / +10%) <80% (-20% / +10%) <60% (-30% / +10%)
Input current THDi	<5% with full resistive load	≤4%
Frequency range	50/60 Hz (selectable)	50/60 Hz (selectable)
Power factor	0.99 @ 100% load	0.99 @ 100% load
Output MUPS		
MCB	ABB Smissline*	ABB Smissline*
Rated output voltage	208 / 220 / 230 / 240VAC*	3 × 400/230V
Voltage tolerance	±1% (referred to 230V)	Static: <±1%, Dynamic: (step load 0%–100% or 100%–0%) <±4%
Voltage distortion	With linear load ≤1% With nonlinear load ≤5%	With linear load <2% With nonlinear load (EN62040-3:2001) <4%
Overload capability	100–124% load 10min 125–150% load 30sec >150% load 500ms	110% load 30 min 125% load 10 min 150% load 60 sec
Output short capability	3xI _n for 100ms	≥2.7xI _n during 100ms
Nominal frequency		
	50/60 Hz ± 0.2 Hz (selectable)	50/60 Hz (selectable)
Crest factor	1:3	
Phase angle tolerance (with 100% unbalanced load)	NA	<2°
Transfer time		
Battery ↔ inverter	0ms	0ms
Inverter ↔ internal bypass	<1ms	<1ms
Inverter ↔ eco-mode	<10ms	<10ms
Efficiency MUPS module		
AC-AC	Up to 95%	Up to 95.5%
In eco-mode	98%	98%
Environment		
Protection rating	IP 44	IP 44
Storage temperature	-15°C–60°C for UPS, 0~35°C for battery	-25°C–70°C for UPS, 0~35°C for battery
Operating temperature	0–45°C (Recommended for maximum battery lifetime 20–25°C)	0–45°C (Recommended for maximum battery lifetime 20–25°C)
Relative humidity	0–95% (Non-condensing)	0–95% (Non-condensing)

*others on request

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02 Unique modular architecture allows for fast and easy servicing while reducing the number of spare parts needed to be kept in inventory.



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