

PowerWAVE MF1500 DPA

(250–1500 kVA/kW)
Scalable to 6000 kVA/kW



Exceptionally resilient, flexible and scalable high power modular UPS offering best-in-market VFI mode energy efficiency. Redefines lifetime cost for data centres and other high density applications without compromising reliability.

PowerWAVE MF1500 DPA

Online double conversion UPS

250 kW to 1500 kW -
parallelable to 6000 kW

Slide-in vertical modules

Cable free internal connections

Extra-long life wear parts

Market leading 97.4% efficiency

Innovation with purpose.

Designed with a clear goal to define that reliability does not require excess, and high power can exist alongside efficient use of energy, the MF1500 DPA modular UPS system combines proven DPA™ technology with the latest advances in components and software.

Innovative, vertical slide-in modules enable resilient, high power density protection by reducing UPS footprint up to 45% over traditional approaches, without compromising access for installation and maintenance.

That protection is achieved with best-in-market 97.4% VFI energy efficiency, reducing environmental impact, optimising PUE measures and delivering significant financial savings in energy and cooling costs.



Innovative vertical modules enable easy access whilst minimising physical footprint.



A 1.5MW MF1500 DPA with a central connections cabinet flanked by six 250kW modules, each containing all elements of a UPS.

DPA™ – Resilient. Reliable. Flexible.

Decentralised Parallel Architecture (DPA™) products contain all the essential components of a UPS within each module, including the static switch, allowing independent operation

DPA™ modules can be hot-swapped without affecting the rest of the system, easing maintenance, reducing system repair times to minutes and dramatically increasing availability

With 1000 kW and 1500 kW frame size options and 250 kW modules, systems can be sized for an initial load and scaled up or down depending on future requirements

For flexibility and additional resilience, each DPA™ module can be fed from an independent or common battery system



N+1, fault-monitored fan assembly housed in cable-free slide-out drawer for maximum reliability and easiest maintenance.

Engineered. Inspired. Informed.

Designed for ease of use from the first moment of installation, module cabinets are easily transported to the UPS and slide into place on integrated wheels

To make them easy, safe and error free, wired connections are entirely eliminated by use of slide-in modules and innovative, pre-engineered power and distribution frames

Advanced design maximises life of consumables, eg fans and capacitors, with replacement only once in a 15-year period

Recognising pressure on space, intelligent physical design delivers a power density of up to 493 kW/m², some 45% better than traditional approaches, without compromising access

An advanced visual interface and display allows an operator to observe performance, events and alarms onscreen, including battery voltage, UPS output and critical component status

Comprehensive control and monitoring keeps operators and service teams fully informed. Information can be accessed remotely via SNMP, Modbus TCP/IP or Modbus RS-485 and integrated with associated systems, e.g. BMS, DCIM or EPMS

Additional control and monitoring features include:

- I/O dry ports
- Remote shutdown
- Castell interlock function
- Battery temperature input

plus compatibility with Kohler's PowerNSURE battery management and PowerREPORTER 24/7 monitoring systems

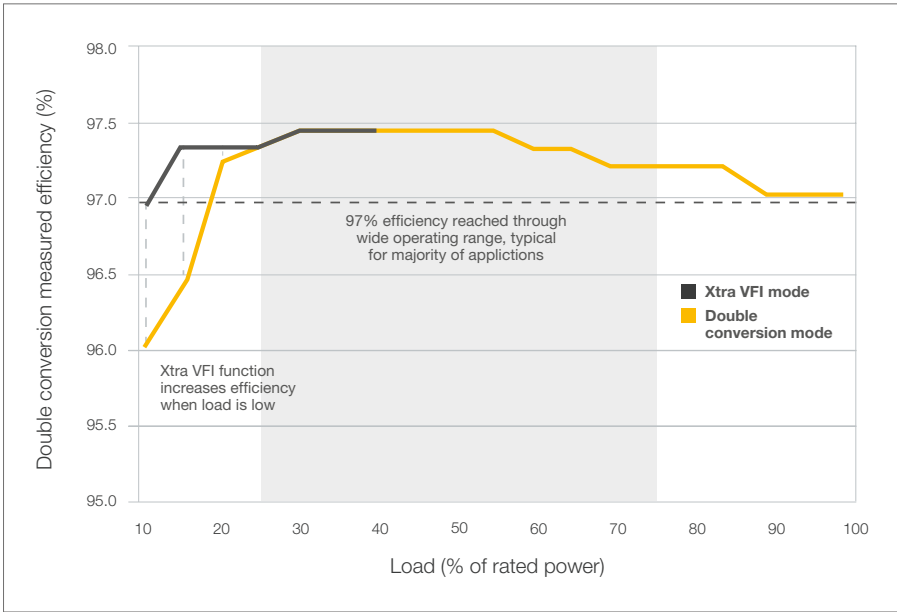
In a 1.5 MW installation, over 10 years the 0.7% extra efficiency of the MF1500 DPA vs a competitor at 96.7% can save over £150k in electrical and cooling costs.

Effective efficiency.

Advanced components enable the MF1500 DPA to deliver the best energy efficiency in its class, up to 97.4% at system level in VFI mode (i.e. Voltage and Frequency Independent, the most commonly used and most protective mode)

Plus, design focus to ensure efficiency can be effectively used, means 97.4% efficiency is not solely delivered in a narrow sweet spot but across a wide, practical load band

Effective use of energy efficiency is enhanced further by Xtra VFI mode functionality. Often when load falls below 25%, UPS efficiency rapidly deteriorates. By automatically adjusting the number of active modules according to load and redundancy requirements, and reverting unneeded modules to standby, Xtra VFI avoids this. Intelligent switching rotates active modules, equalising aging and extending service life



Xtra VFI mode maintains high efficiency even when load drops below 25%.

Technical specification

General data	1000 kW	1250 kW	1500 kW
System power range	250 kVA/kW to 6 MVA/MW		
Max power per module	250 kVA/kW		
Max power per frame	1000 or 1500 kVA/kW		
Topology	Double conversion, transformer-free, modular, Decentralised Parallel Architecture		
Parallel configuration	Up to 6 modules per frame (1500 kW) / up to 4 frames in parallel (6 MW)		
Cable entry	Bottom or top as standard		
Serviceability	Frontal access for power frame and connection frame, removeable power module with 360° access		
Back-feed protection	Built-in as standard		
Input			
Nominal input voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N		
Voltage tolerance	-30% at partial loads, ref 3 x 400 / 230V		
Input distortion THDi	<4% at 100% linear load		
Frequency range	35–70 Hz		
Power factor	0.99 @ 100% load		
Walk in/Soft start	Yes		
Output			
Output power factor	1.0		
Rated output voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N		
Output voltage variation	±1% @ 400V		
Voltage distortion	< 2% at linear load. 2.5% for non-linear load		
Frequency	50 or 60 Hz (selectable)		
Efficiency			
Overall efficiency	97.4% (VFI mode at 50% load)		
In eco-mode	Up to 99%		
Environment			
Protection rating	IP 20		
Storage temperature	-25°C to +70°C		
Operating temperature	0°C to +40°C		
Altitude (above sea level)	1000 m without de-rating		
Batteries			
Number of 12V blocks / string	40–50 12V blocks		
Types	VRLA, vented lead-acid, NiCd, Lithium-Ion		
Battery charger	Decentralised charger per module		
Communications			
User interface	1 x decentralised graphical LCD touch screen, plus additional LCD display with navigation buttons and status LEDs per module		
Communication ports	USB, RS-232, voltage-free contacts, SNMP (optional)		
Customer interface	Remote shutdown, gen-set interface, external bypass contact		
Compliance			
Safety	IEC / EN 62040-1		
EMC	IEC / EN 62040-2		
Performance	IEC / EN 62040-3		
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS 18001		
Weight/Dimensions			
Weight	2170 kg	2865 kg	3270 kg
Dimensions (mm) W x D x H	2235 x 1000 x 2000	3045 x 1000 x 2000	3045 x 1000 x 2000

Note: For reference, in selected territories the Kohler PowerWAVE MF1500 DPA is sold badged as the ABB MegaFlex DPA.

PowerWAVE MF1500 DPA frame formats



1.0 MW LHS connections cabinet



1.0 MW RHS connections cabinet



1.5 MW



up to **6.0 MW**

1.0MW and 1.5MW frames and 250kW modules allow scaling to match your load, from 250kW to 6.0MW.

KOHLER POWER
uninterruptible



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