

MARCHE LM

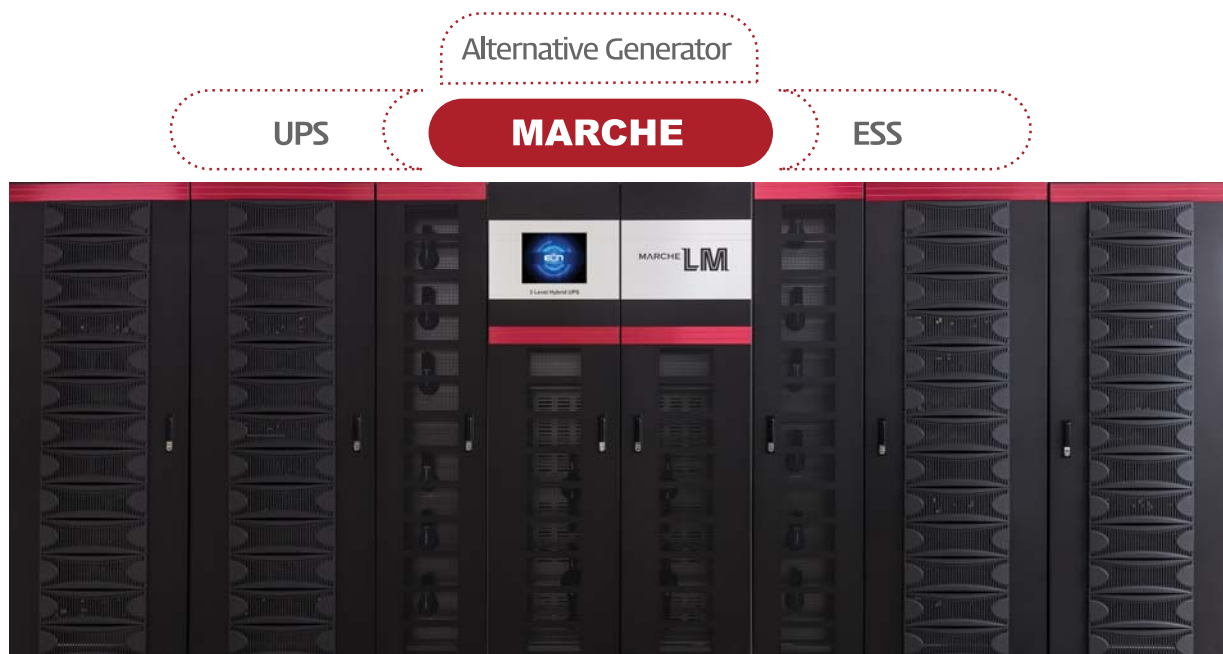
Superior Flexible Modular Hybrid UPS



MARCHE **LM**

The world's first hybrid uninterruptible power supply "MARCHE" is the first ESS combined Hybrid UPS that is combined with the advantages of UPS and ESS as an optimal solution to cope with surging power demand.

"MARCHE" is able to improve the energy cost by utilizing energy storage and using power in the peak hours, while protecting major facilities in the case of emergency such as power outage.



The latest electric power operating environment is increasing the necessity of efficient energy utilization through building stable electric power supply system. Meanwhile, the development of IT and wireless communication has increased the importance of stable and high quality power supply.

EON Hybrid UPS "MARCHE" is a 3 level All IGBT, Transformer free design based on the latest technical trend. It is the best power supply that is able to bring stability and efficiency of power operation.

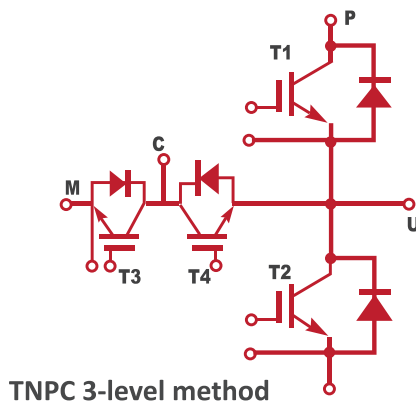
It has the same product performance as the products of global providers. The device provides the best power operation efficiency by adjusting the power factor of the power system through ESS function and reactive power control.

MARCHE LM-high efficiency modular UPS

MARCHE LM is excellent for large data centers and is a new Hybrid UPS that is able to provide optimal performance.

The device is fully digital controlled by applying Dual Digital Signal Processor (DSP), enabling performance and feature improvements without any additional hardware changes.

Reduced harmonics (50%) and power conversion loss (30%) compared to the existing 2-level system.



Dual DSP

Function and performance

- * The highest efficiency (up to 97.5%) in the industry
- * TNPC 3 level power conversion
- * Excellent input performance
 - $PF > 0.99$
 - $THDi < 3\%$
 - Wide input voltage tolerance band: +15%, -20%
- * Excellent overload capability:
 - 125% 10 minutes, 150% 1 minutes
- * 100% unbalanced load capability
- * Can be used without de-rating up to leading load PF 0.9
- * Hot-Swap function
- * Self load test function
- * Up to 8 units in parallel

User operation friendly Display

- * TFT large touch screen
- * Korean & English languages are available
- * Wired LAN communication (10/100Mbps)
- * WiFi, wireless
- * Stereo speaker output support: warning and voice output function
- * Memory card support: memory card storage (approx. 1 mln. unit) of event record and setting value



Scalability

300kVA modules are configured as basic units up to 1,200kVA and can scale up to 9.6MVA.
Highest active power rating available thanks to multifaced modularity.

- Single system up to 1.2MVA
- Parallel system up to 9.6MVA



Intelligent parallel operation and Hot-Swap function

Intelligent parallel operation

- Intelligent parallel operation algorithm application : Optimize the efficiency of the UPS system even at low partial loads by applying the unit module efficiency curve information.
- Intelligent variable algorithm application : MARCHE LM will evaluate the real number of power modules required to power the actual load.

Hot-Swap function

- It is possible to replace power stack of individual module during operation.
- It is possible to implement automatic synchronization with other modules after replacing the power stack.

Excellent effectiveness and installation flexibility

MARCHE LM delivers industry-leading high efficiency that helps to minimize operating costs.

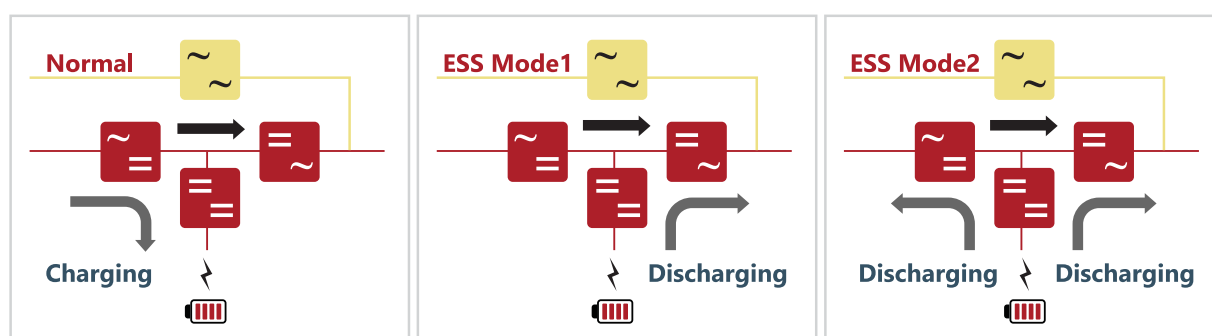
- Both rectifier and inverter adopted TNPC-based 3-level power conversion
- IGBT in the latest generation
- Hot scalable modular Power stack

MARCHE LM provides the industry's highest level of power density module power stack. Therefore, it enables users to minimize the space and can be configured in a variety of layouts through the flexibility of installation.

- Multiple dimensions of modularity for maximum capacity or redundancy
- Centralized and distributed parallel capabilities
- Intelligent and smart capacity
- 3 wire and 4 wire : allowing effortless replacement of legacy equipment

ESS function mode

ESS stands for Energy Storage System, which functionally means that energy will be charged the battery during low power demands (night time) and discharged from battery during peak times to improve utilization efficiency and to save on electric charges.



System power factor correction function

MARCHE LM has a reactive power correction function that provides the following advantages in terms of power infrastructure construction.

- Power cost reduction by whole building power factor improvement
- Electricity infrastructure construction reduction
- Power factor improvement of inductive loading facility
- Power factor improvement of capacitive loading facility

Battery compatibility and management function

Reflecting the characteristics of Li-Ion batteries, which have been widely used in Data Center recently, they are designed to have a wide range of battery voltage, offering a wide selection of battery usage.

Flexible and immediate UPS comprehensive solution provision

Equipped with synchronization function (LBS) function

MARCHE LM is fully synchronized with our and other manufacturer's models through the built-in synchronization function, which provides optimal switching conditions when installing STS (Static Transfer Switch).

Modular Power Stack Power Converter

MARCHE LM is a modularized power converter, Power Stack, which enables slide-on / off operation from the front and this shortens the repair time and maintenance.

Excellent and easy remote monitoring (Option)

MARCHE LM is able to recognize various measured values and fault details from a monitoring computer at a glance through a special program (UPSMon) and real time remote control is possible.

Immediate problem check by smartphone

The operator is able to check the status of the equipment anytime and anywhere by using the smartphone and receive prompt messages about the fault situation and check items, so that the system can be operated in an effective and stable manner.

Device specifications

system capacity		1,200kVA
single cabinet capacity		300kVA
input	normal input	3 phase 4 wire, 3 phase 3 wire
	voltage and range	380V, 400V, 415V, 440V +15%, -20%
	Total Harmonic Distortion (THDi)	below 3%
	power factor	above 0.99
	frequency range	50Hz/60Hz $\pm 10\%$
	battery voltage (Vdc) range	480~720
output	normal input	3 phase 4 wire, 3 phase 3 wire
	normal output voltage	380V, 400V, 415V, 440V
	voltage stability	$\pm 1\%$ (in steady state condition)
	frequency stability	50Hz/60Hz $\pm 0.1\%$
	output voltage distortion	below 2% (in linear load)
	crest factor	above 3:1
	overload capacity	125% 10 minutes, 150% 1 minute
	output power factor	0.9 ~ 1.0
	AC/AC efficiency	up to 97.5%
environmental condition	noise (measurement at 1.5m)	75dB
	operating temperature	0~+40℃
	maximum operation altitude	$\leq 1000\text{m}$
	relative humidity	below 90%, dew shall not be caused
functional specification	cooling method	forced air cooled
	operation and protective device	- AC input breaker/bypass input breaker/output breaker/ emergency bypass circuit breaker - EPO button/FAULT CLEAR button/ Audible alarm reset button/Inverter On/Off button
	monitoring and control	- Various measurement values and status display by 12.1" TFT color touch screen LCD
size	external monitoring interface	- RS-232C, RS-422, RS-485 - Modbus - LAN Interface - Remote contact (type "C" contact, AC abnormality, stop due to battery low voltage, bypass operation, general warning)
	W width(mm)	4150
	D length(mm)	900
	H height(mm)	1900



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