

# MPLUS SERIES

Hot Swappable Modular UPS

30-210kVA / 20-200kVA

## Applications:



Data Center



Networking



Industrial



Banking

## PowerFactor 1 Modular UPS

Mplus series is a truly double conversion online modular UPS with high scales from 20kW/30kW to 200kW/210kW. Modular design implemented in STS, Power module, and battery, it achieves low MTTR, technician will streamline and simplify their maintenance and replacement, furthermore end customer will be more flexible, more convenient to escalate their power demand in the future.

## GENERAL FEATURES

- Power Factor 1.0\*\* (kVA = kW)
- Efficiency up to 94.5%
- 20/30 kVA per module
- Adjustable charging current
- Adjustable Battery Voltage
- Dual input function
- Power modules are hot swappable
- Redundancy ready
- Easy maintenance in service
- Emergency power off function (EPO)
- Maintenance Bypass included
- 5,7" LCD Panel

## High efficiency online double conversion technology

Mplus is applied online double conversion technology with high performance over 94.5% at 50% load. It significantly reduces overall Total Cost of Ownership (TCO).

## High scalability

DSP control provides an improved solution with high performance. Integrated with modular design and parallel technology, Mplus simplifies future power expansion.

## Unity output power factor

Mplus delivers unity output power (kVA=kW) providing the maximum power capacity to mission critical loads. It satisfies the requirements of the latest servers and optimizes IT investment with every penny.

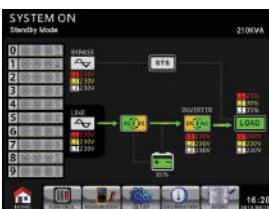
## Modular design lowers MTTR

Modular design is applied in power module, STS module and battery module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair).

## N+1 or N+X parallel redundancy for power guarantee

Scalable architecture allows you to optimize cost expense to meet power demands by vertically expanding in a single rack enclosure from 30KVA to 210KVA and achieve N+1 or N+X redundancy in the same rack.

## Optional 10" touch LCD panel



## Ease of installation and maintenance

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are front accessibility.

## Flexible battery configuration adapts different applications

Battery numbers can be adjusted flexibly. It will adapt different power demands and shorten system downtime.

Battery voltage can be set from 32 to 40 pieces per string.

## Graphic 5.7" LCD design for easy management

Designed for easy management, Mplus is equipped with 5.7" graphic LCD screen. Intuitive design enhances display information identified and advanced configuration.

## High reliable operation with redundant power supply in STS

Mplus provides 2 power supplies in STS. It will ensure no shutdown risk for STS.

## User-adjustable charging current

Mplus provides maximum 8A or 6A charging current for every power module and it's user-adjustable based on requirement.

## High overload capability

Mplus supports, 110% overload for 60 minutes, 125% for 10 minutes, and 150% for 1 minute.

Standard Series



Mplus 30U-90



Mplus 42U-120

Extended Series



Mplus 30U-120



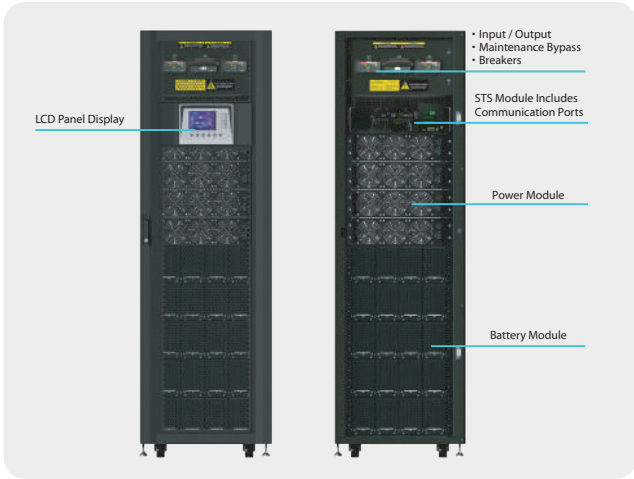
Mplus 30U-180



Mplus 42U-200



Mplus 42U-210

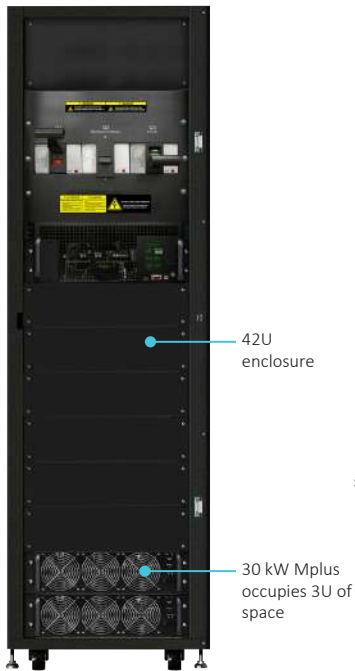


**Expandability. Flexibility. Uninterruptibility. Via Modular architecture**

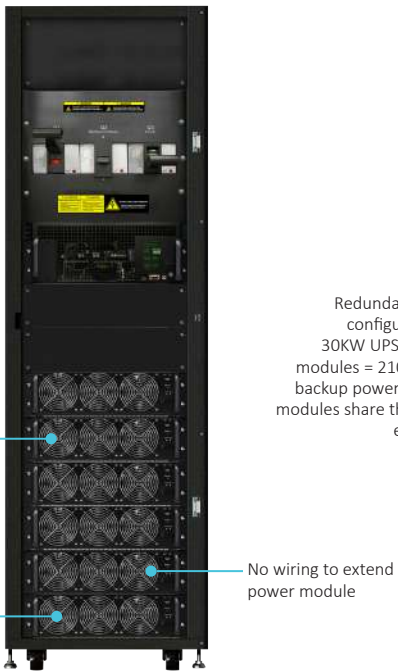
Thanks MPLUS Modular design architecture, scalable and compact size 3U rackmount power module that supplies 30kW of backup power protection. Whole system can be easily expanded as your data center growth. Plug and play N+X,N+1 redundancy design optimizes customer's power demand and enhance the capital investment plan and deployment.

MPLUS smart intelligent load sharing system proportionates workload into each power module without linking any extra communication, paralleled, current share cables. Besides, system is no need to shutdown or interrupt, MPLUS can provide backup support during power module maintenance.

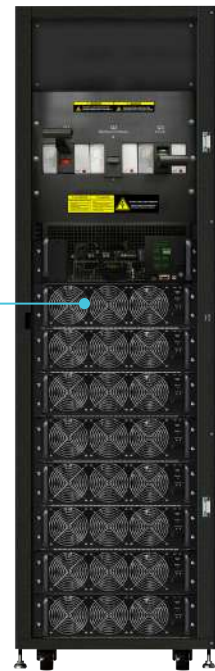
**YEAR 1:**  
INITIAL INSTALL



**YEAR 3:**  
EXPANSION



**YEAR 5:**  
FURTHER EXPANSION



MPLUS Offers 20KVA and 30KVA power module, no matter which model, e.g, in 30U extend model, power module can be installed up to 6PC, 120KVA with 20KVA or 180KVA with 30kVA 6PC power modules. In addition, same cabinet reduces wiring, or human error operation issue and ensures backup power increased to cover new power demand in a right way.

MPLUS also offers 15U cabinet as economy purpose, full range power rating is not only suitable for large IT room, Datacenter, but also adequate to infrastructures and different purposes.

MPLUS 30U/42U extremely flexible characteristic, One power module with 30KW unity power factor can be single or multi module operation. In 42U cabinet model can up to 7+1 modules 210kW, elastic design offers proper backup power protection with appropriate capital investment whenever needed.



15 U 90kW

## TECHNICAL SPECIFICATIONS

MODEL	Mplus 15U-90	Mplus 30U-90	Mplus 42U-120	Mplus 30U-120	Mplus 30U-180	Mplus 42U-200	Mplus 42U-210
PHASE	3-phase in / 3-phase out						
CABINET CAPACITY*	90KW or 60KW	90KW	120KW	120KW or 80KW	180KW or 120KW	200 KW	210 KW
BATTERY TYPE	External Battery	Built-in Battery			External Battery		
ONE POWER MODULE CAPACITY	PM-20HV : 20KVA/20KW or PM-30HV : 30KVA/30KW	PM-30HV : 30KVA/30KW	PM-30HV : 30KVA/30KW	PM-20HV : 20KVA/20KW or PM-30HV : 30KVA/30KW		PM-20HV : 20KVA/20KW	PM-30HV : 30KVA/30KW
MAX. POWER MODULE NO.	3	3	4	4	6	10	8
MAX. BATTERY SET NO.**	0	3	5	-	-	-	-
<b>INPUT</b>							
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)						
Voltage Range	305 ~ 478 VAC at 100% load; 208 ~ 304VAC at <70% load						
Nominal Frequency	50/60Hz (Auto Sensing)						
Frequency Range	40Hz ~ 70Hz						
Power Factor	> 0.99 @ 100% Load , >0.98 @ 50% Load						
Harmonic Distortion (THDi)	< 3% @ 100% load						
<b>OUTPUT</b>							
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)						
Voltage Regulation (Steady state)	≤ ± 1% Typical (balanced load) ; ≤ ± 2% Typical (imbalanced load)						
Nominal Frequency	50/60Hz						
Frequency Range (Synchronized)	46Hz ~ 54Hz or 56Hz ~ 64Hz						
Overload Capability	1 hour for 110%, 10 mins for 125%;; 1 min for 150%, 200ms for >150%						
Harmonic Distortion	≤ 2% THD (Linear Load) ; ≤ 4% THD (Non-linear Load)						
Efficiency	Up to 94.5%						
ECO Mode	Max 99%						
<b>BATTERY / CHARGER</b>							
Nominal Voltage	+/- 216V (12V x 36 pcs)						
Maximum Voltage	+/- 240V (12V x 40 pcs)						
Minimum Voltage	+/- 192V (12V x 32 pcs)						
Float Charging Voltage	2.25V / Cell						
Boost Charging Voltage	2.35V / Cell						
Temperature Compensation	Yes						
Maximum Charging Current (Per Power Module)	8A		8A for 30KW power module 6A for 20KW power module			6A	8A
<b>PHYSICAL</b>							
Cabinet Dimension (D x W x H) mm	1100 x 514 x 763	1100 x 600 x 1475	1100 x 600 x 2010	1100 x 600 x 1475	1100 x 600 x 1475	1100 x 600 x 2010	
Net Weight (Kg)	182	675	932	335 or 333	437.5 or 434.5	625	549
<b>ENVIRONMENT</b>							
Operation Temperature	0 ~ 40°C						
Relative Humidity	0 ~ 95% non-condensing						
Altitude	<1000m for Nominal power						
IP Class	IP 20						
<b>MANAGEMENT</b>							
RS-232/USB	Supports Windows 2000/2003/XP/Vista/2008,Windows 7/8/10, Linux and MAC						
Optional SNMP	Power management from SNMP manager and web browser						
<b>STANDARDS</b>							
Safety	IEC/EN 60950-1; IEC/EN 62040-1						
EMC	IEC/EN 62040-2 Category C3						

\*When temperature is above 30°C , the output power factor will be de-rated, 0.9 at 31°C ~35°C and 0.8 at 36°C ~40°C .

\*\* One battery module contains 10 pcs of 12V/7Ah or 12/9Ah sealed lead acid batteries in one tray. One complete battery set contains 4 battery modules.

\*\*\*If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

Product specifications are subject to change without further notice



Model	Description	Dimension DxWxH(mm)	Weight (kg)
PM-20HV	3P/3P 20KVA / 20KW power module	650 x 440 x 132 (3U)	34
PM-30HV	3P/3P 30KVA / 30KW power module	650 x 440 x 132 (3U)	34.5
Battery Module	10 pcs of 12V 9Ah batteries	735 x 107 x 155	26

