

MP7

Uninterruptible Power Supply



PRODUCT SPECIFICATIONS

MP7

Description

The industrial MP7 UPS provides your critical equipment with uninterruptible 3 phase AC power. Using high frequency dual conversion technology, MP7 protects your critical load and provides reliable power isolated from AC main distortion and fluctuation.

Using insulated gate bipolar transistors (IGBT), MP7 reduces total harmonic distortion and controls output voltage utilizing pulse width modulation (PWM).

The MP7 UPS is a fully modular and hot swappable system which also contains an internal maintenance bypass and static transfer switch through the bypass module. This enables easy expansion and maintenance, all without load interruption.

For mission-critical equipment, isolation and line maintenance is vital. MP7 comes standard with input, output and maintenance bypass breakers inside the main cabinet, or an external maintenance bypass panel option is available.

Scalable and flexible, offering 10 kVA modules and 3, 6 and 10 module cabinets, MP7 can be customized to meet a wide range of job specifications.



10 module, 100kVA MP7 with internal breakers, static transfer switch and front accessible top hat.



Standard Features

- Vienna rectifier
- Module capacity 10KVA @ 208V AC
- “Hot Swappable” modules
- Linear and nonlinear load capability
- IGBT modules in design for better regulations, efficiency and control
- Dedicated rectifier and inverter controllers in each module
- Static transfer switch (<1 ms transfer time)
- Input, output and maintenance bypass breakers
- Battery temperature compensation (optional probe required)
- Modbus RS232 & RS485 Port (optional Modbus TCP, SNMP)
- Conformal coating
- Fault isolation
- LCD Human-Machine Interface (HMI)
- Certificates : CSA-C22.2 No.107.3, CE 73/23 & 93/68, UL 1778

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Redundancy and Hot Swappable Modules

Each 208V MP7 module has a capacity of 10 kVA.

The modular design allows you to:

- Easily scale MP7 for growing power requirements
- “Hot Swap” by quickly adding/replacing modules
- Have redundant modules in case of failure
- Run cabinets in parallel
- Reduce maintenance by stocking standardized modules that fit all cabinet sizes

On the right hand side is a chart that shows you the versatility of the MP unit. N + 1 signifies a unit with 1 redundant module. N + 2 signifies a unit with 2 redundant modules. 2N signifies a secondary fully redundant cabinet. Lastly 2N + 1 signifies a fully redundant cabinet with 1 redundant module in each.






Redundancy Chart

10kVA Module

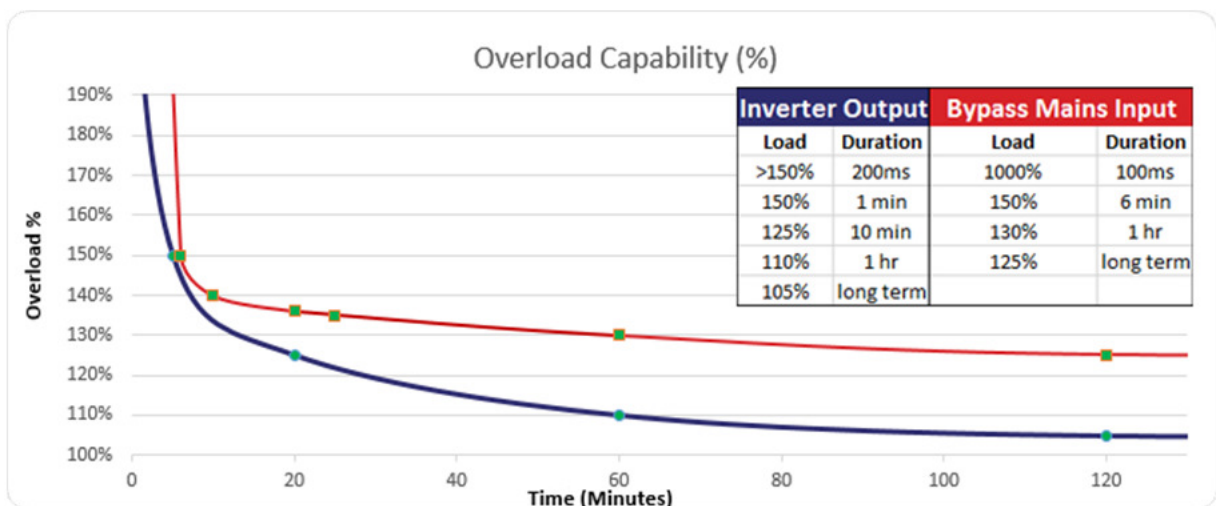


3 Module Cabinet



Possible Configurations	
10 kVA	
10 kVA N + 1 or 20 kVA N	
10 kVA N + 2 or 20 kVA N + 1 or 30 kVA N	
10 kVA 2N	
10 kVA 2N + 1 or 20 kVA 2N	

Overload Capability



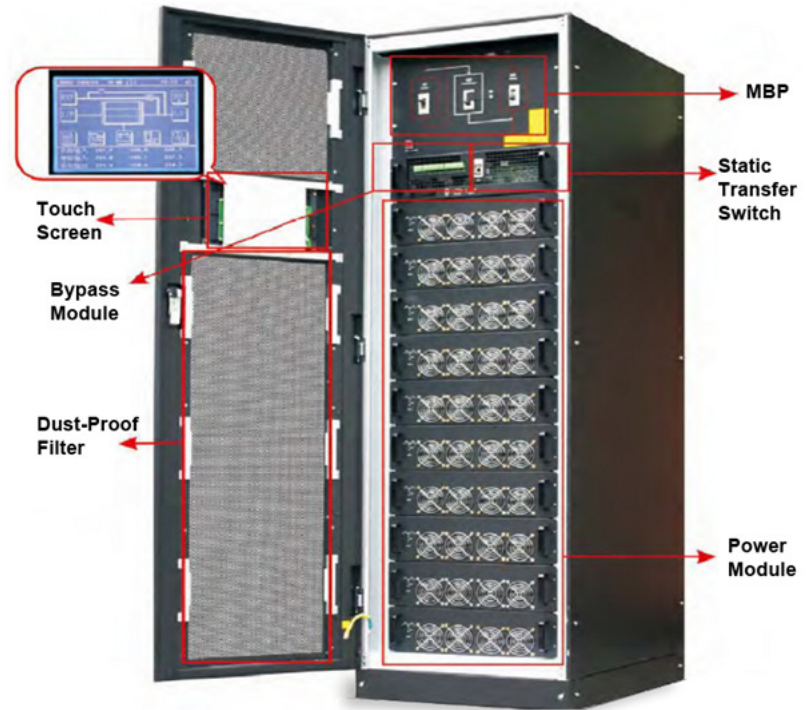
Key Features

MP7 has mechanical features that make it suitable for a wide variety of applications. Some of the key mechanical features include:

Integrated MBP which provides input/output breakers and maintenance bypass breaker inside the main cabinet. Optionally, you can install protection breakers into an external maintenance bypass panel completely isolating AC power from the UPS.

Touch Screen LCD provides easy navigation and enhanced control over MP7 parameters.

Small Footprint. MP7 provides the same physical dimensions (width and depth) for all cabinet options with only a variation in height. Depending on your backup time, batteries can either be inside the cabinet, or put in an external battery panel giving you more control over your space. Having a standardized module sizes across all cabinets reduces spare parts and maintenance costs.



Load Adaptability

MP7 provides 100% non-linear load capability, providing steady state voltage regulation of ± 1 and unbalanced load regulation of ± 1.5 .

Load adaptability can help simplify integration and prevent buying an oversized unit to handle an unbalanced load.

Low Total Harmonic Distortion

MP7 uses PWM and IGBT technology to reduce harmonics. Low harmonics can prevent unnecessary equipment degradation, and avoid problems like electrical energy loss, damage to capacitors and conductor losses when power is sent back to the grid.

Metering and Display

MP7 gives the operator full control over the UPS through the HMI. The operator can manually operate the static transfer switch and battery maintenance tests as well as monitor all measured parameters such as UPS and battery status and event and alarm logs.

MP7 and measures and displays the following:

- **Main Input, Output and Bypass**
 - Voltage (V) L-N
 - Current (A)
 - Frequency (Hz)
 - Power Factor (%)
- **UPS load per module**
 - S (KVA) (Apparent Power)
 - P (KW)
 - Q (KVAR)
 - Load (%)
- **Battery Data**
 - Battery temperature (° C)
 - Ambient temperature (° C)
 - Battery capacity (%)
 - Voltage (V)
 - Current (A)
 - Remaining backup time (min.)
 - Float charging
 - Equalized charging
- **Fault history**
- **Event log**
- **Real time alarm monitoring**
- **N# status code**

Dry Contacts

MP7 provides dedicated dry contacts for the following functions:

- **Input**
 - Remote EPO (Emergency Power Off) operation
 - Remote static transfer switch operation
- **Output**
 - Battery and environment temperature monitoring
 - Static switch feedback
 - Common alarm
 - Utility failure alarm



3-Module Cabinet



6-Module Cabinet



10-Module Cabinet

Optional Features

MP7

Power Distribution Unit



One central power unit when two or more power supplies are utilized.

External Maintenance Bypass Panel



Completely isolate power to one central bypass cabinet.

Battery Cabinet



- a) Internal (inside UPS)
- b) Internal (external cabinet)
- c) External (rack).
(depending on battery setup and ventilation)

Top Hat Assembly



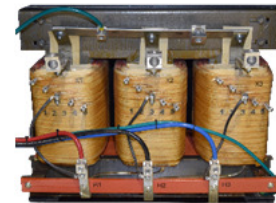
Provides front access to UPS for ease of maintenance. Aluminum gland plate for running single conductors.

NEMA Enclosures



Other NEMA ratings available upon request.

Isolation Transformer



Range between:
120/208 - 600VAC.

Additional Options

- Single cell battery monitoring
- Temperature probe
- Dual input
- Frequency converter configuration
- Dust proof filter
- Communications: Modbus TCP, SNMP

Technical Specifications

Input			
Rated AC Input Voltage	200/208VAC (3 phase 4 wire , sharing neutral with the bypass input)		
Input voltage range	-20% to +25%		
Frequency	50/60 (range: 40Hz~70Hz)		
Power factor	>0.99 @ full load		
THDI	<3% @ 100% linear load		
Bypass & Static Transfer Switch			
Switch time (bypass & inverter)	Synchronized switch: ≤1ms		
Superior Protection Bypass Line	Thermal-magnetic breaker, the capacity is 125% of rated current output		
Synchronization-window	Rated ±3Hz (selectable from ±0.5Hz ~±5Hz)		
Inverter Output			
Rated AC voltage	200/208VAC (3 phase 4 wire , sharing neutral with the bypass input)		
Inverter Voltage Range	±5%		
Frequency	50/60 Hz		
Fault Current	300 % short current limitation for 200ms		
Steady State Voltage Stability	±1 (balanced load), ±1.5 (100% unbalanced load)		
THDu	<1.5% (linear load), <5% (non-linear load)		
Slew Rate	1%, selectable 0.1~5		
Efficiency			
Normal mode (dual conversion)	90%		
ECO mode	98%		
Battery mode	90%		
Battery			
Battery bus voltage	Nominal: 240 VDC, (±99V~±144V) 2 strings in series (120 Cells)		
Quantity of lead-acid cells	20=[12V unit] , 120=[2V unit]		
Float/Equalize	264 – 294V		
Type of Battery	VRLA/Flooded Lead Acid/NiCd		
Communication			
Communication	RS-485, RS-232, (optional: Modbus TCP, SNMP card)		
Environmental Characteristics			
Acoustic noise level at 1 meter	55.0 dB		
Operating Altitude	≤3280ft. (1000m) above sea level, de-rate power by 1% per 328ft between 3280ft and 6560ft		
Relative Humidity	0 to 95%, non-condensing		
Operating Temp.	0 to 40 °C		
UPS Storage Temp.	- 20 °C~70 °C		
Battery Storage Temp.	- 20 °C~30 °C (20°C for optimum battery storage)		
Mechanical Characteristics			
Cabinet Specification	3-module	6-module	10-module
Dimensions, H x W x D (inch)	44 x 23.6 x 35.4	63 x 23.6 x 35.4	78.7 x 23.6 x 35.4
Weight (lb)	190	381	472
Color	Black		
Protection Level, IEC(60529)	NEMA 1 (optional: NEMA 2, 3R or 12)		
Certification			
Certification	CSA-C22.2 No.107.3, UL 1778, CE 73/23 & 93/68		
Warranty			
Warranty	18 Months from date of shipment		