NERM Series Three Phase Modular / Redundant True-on-Line UPS System 6-400 KVA

10 KVA to 400 KVA (For 220/380 VAC Power systems)
6 KVA to 240 KVA (For 120/208 VAC Power systems)

Nova Electric's NERM-Series True Online UPS provides a modular backup solution for data centers, computer systems, and any other critical equipment which demands dependable backup power. The NERM's state of the art design combines the latest IGBT three-level technology along with modern DSP Control for maximum reliability, low THD-i, and extremely high system efficiency. Modules can be stacked from 6 KVA to 400 KVA, offering hot-swappable flexibility with the highest quality, at a price you can afford. Power expansion is very simple to achieve by adding more individual power modules to the system, which can reach 200 KVA power in a single rack. Two racks can be paralleled for 400 KVA power!



10 Module Cabinet



6 Module Cabinet



Single Module

Modular Hot Swap Design

Each UPS power module is designed to be hot swappable for hassle -free power expansion and system maintenance. Each module is controlled independently, thus avoiding a single point failure risk. If any individual module fails or disconnects, the system continues to operate and supply power without interruption, ensuring a high level of reliability and protection.

Easy Operation and Installation

The modular flexibility of the NERM-Series UPS dramatically reduces technician time spent on installation and maintenance. A large touch-screen LCD panel ensures that users can quickly and easily access vital information.

Intelligent Battery Management

Each UPS module contains a powerful 3.2 KW battery charger, and up to ten modules can be paralleled for 32 KW maximum battery charging capacity. These chargers are DSP controlled with intelligent digital algorithms designed specifically to prolong battery life.

The Smart Protection System

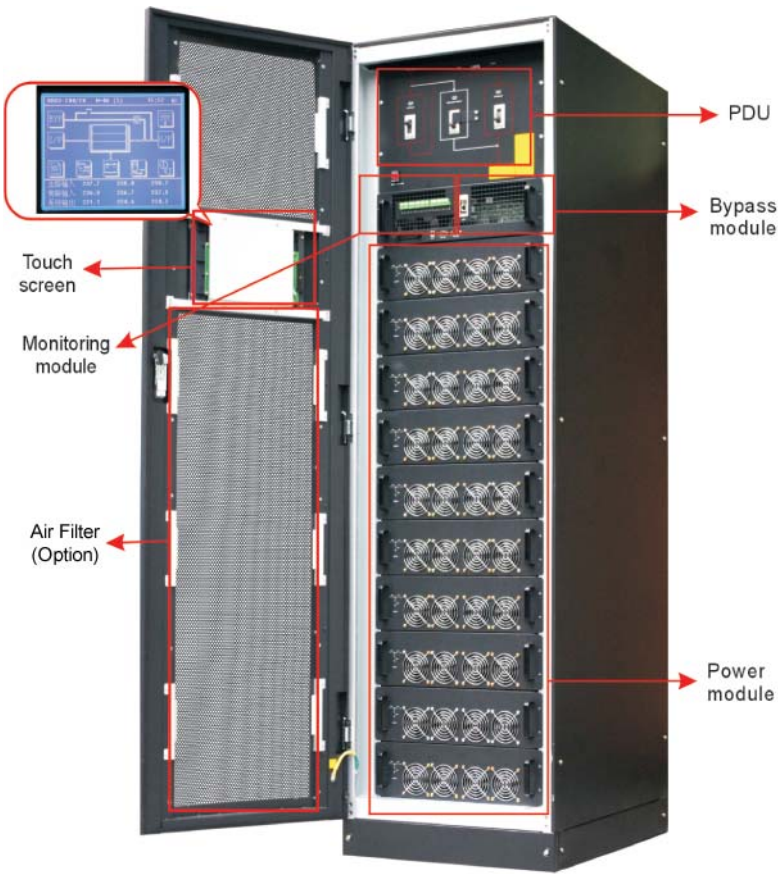
Each individual power module and the overall system are protected by both hardware and software. Protection functions include abnormal current, incorrect input or output voltage, over temperature, and short circuit. The combination of these hardware and software protection functions results in extremely high reliability, with a very user friendly interface.

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AS 9100
BUREAU VERITAS
Certification

NOVA ELECTRIC *div. Of Technology Dynamics Inc.*



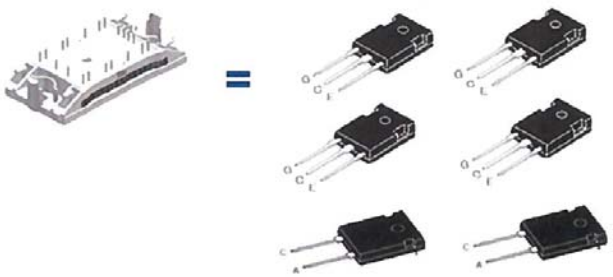
10 Module Cabinet Shown

High Reliability Design

The low-loss integrated three-level IGBTs used in each NERM-Series power module result in higher efficiency and enhaced reliability due to lower heatsink temperatures.

NERM-Series Integrated IGBTs boast Ultra-High Reliability

Discrete IGBT devices in competing UPSs are less reliable and not as efficient



Standard Features

- High input power factor (>0.99) with low input THD-i (<3%).
- Low adaptability for linear and nonlinear load.
- Low audible noise system design (<55db).
- Double DSP controller for each individual power module.
- Digital control for all major UPS subassemblies including rectifier, inverter, battery charger, and battery discharge.
- IGBT modules rather than discrete semiconductor components are used in the power module for high reliability.
- Conformal coated boards for humidity resistance.
- Built in PDU circuit breakers for cabinet AC input, AC output and maintenance bypass.
- Digital paralleling technology with very low circulating current between power modules.
- Front access cabinet with both top and bottom cable connections.
- Each individual module is configured with an independent DSP controller to avoid single point of failure risk.
- Generator-friendly interface.
- RS232, 485, and dry contacts all standard.

Partial Option Selection

- VRLA batteries in modular drawers.
- VRLA batteries in a separate matching cabinet or in an open rack.
- Battery circuit breaker.
- SNMP communication card.
- Battery temperature compensation module.
- User replaceable air filter for dusty environments.
- Parallel operation kit.
- Input isolation transformer.
- Alternate remote shutdown / EPO configurations.
- Battery cold start module (Allows the UPS to start on battery alone).

Module Features

Hot swap building block 12 KVA and 6 KVA modules @ 120/208 VAC and 20 KVA and 10 KVA modules @ 220/380 VAC



- Independent control.
- Designed for parallel operation with active current sharing.
- Designed for (N+1) redundancy.
- Capable of hot swap.
- Automatic mechanical disconnection in case of failure or maintenance.

*Specifications are subject to change without notice

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ISO 9001

220/380 VAC THRU 277/480 VAC MODELS

Specification

Capacity	10-200 KVA (to 400 KVA with 2 racks)		
Main Input			
Input voltage (with neutral)	220/380, 230/400, 240/415 or 277/480 VAC (with optional transformer)		
Input frequency	50/60 Hz		
Input Power factor	>0.99		
Input current THD (Total Harmonic Distortion)	<3%		
Input voltage window	-20% to +20% at full load; -40% to +20% at 70% load or less		
Frequency window	40-70 HZ Programmable		
Battery			
Battery voltage	±240 VDC (Nominal)		
Charger power	20%*Power		
Charger voltage precision	1%		
Bypass			
Bypass voltage	220/380, 230/400, 240/415 or 277/480 VAC (with optional transformer)		
Bypass voltage window	-20%~ +15%, full load, settable		
Bypass overload capability	< 125%, long term operation (2 hours maximum)		
	125%<load<130%, for more than 1 hour		
	130%<load<150%, for more than 6 minutes		
	>1000%, for more than 100 ms		
Output			
Output voltage	220/380, 230/400, 240/415 or 277/480 VAC (with optional transformer)		
Voltage precision	±0.5% (balanced load), ±1% (unbalanced load)		
Voltage THD (Total Harmonic Distortion)	THD<1.5% (linear load), THD<5% (nonlinear load)		
Power factor	0.8		
Phase tolerance	120°±0.5°(balance and unbalance load)		
Crest factor	3:1		
Overload capability	Up to 105%, continuous operation Up to 110%, transfer to bypass after 1hour Up to 125%, transfer to bypass after 10 minutes Up to 150%, transfer to bypass after 1 minute >150%, transfer to bypass after 200 ms		
System			
System efficiency	Normal mode: 95%		
	ECO mode: 99%		
Battery mode efficiency	95%		
Display	LCD+LED, Touch screen and keyboard		
IP class	IP20		
Interface (Communication Ports)	RS232, RS485, Dry Contacts, SNMP Card, EPO, Generator Interface		
Installation/Connection	Top or bottom cable connection		
Operation temperature	0-40°C (to 50°C with 15% derating)		
Storage temperature (Electronics)	-25°C to +70°C (Battery may be different)		
Relative humidity	0-95% (non-condensing)		
Noise (dB)	<55dB		
Weight (kg/Lb) **Note: Cabinets do not need to be fully populated**	6-module Cabinet	NERM060/10,RM090/15,NERM120/20	150kg/330Lb
	10-module Cabinet	NERM100/10,RM150/15,NERM200/20	180kg/396Lb
	NEPM10 10KVA	20kg/44Lb	
	NEPM20 20KVA	22kg/49Lb	
Dimension (W*D*H)(mm/inch)	6-module Cabinet	600*900*1600 / 23.6*35.5*63	
	10-module Cabinet	600*900*2000 / 23.6*35.5*78.8	
	Module (10/20 KVA)	440*600*134 / 17.3*23.6*5.27	

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ISO 9001

120/208 VAC MODELS

Specification

Capacity	6-120 KVA (to 240 KVA with 2 racks)		
Main Input			
Input voltage (with neutral)	120/208 VAC		
Input frequency	50/60 Hz		
Input Power factor	>0.99		
Input current THD (Total Harmonic Distortion)	<3%		
Input voltage window	-20% to +20% at full load, -40% to +20% at 70% load or less		
Frequency window	40-70 HZ Programmable		
Battery			
Battery voltage	±120 VDC (Nominal)		
Charger power	20%*Power		
Charger voltage precision	1%		
Bypass			
Bypass voltage	120/208 VAC		
Bypass voltage window	-20%~ +15%, full load, settable		
Bypass overload capability	< 125%, long term operation (2 hours maximum)		
	125%<load<130%, for more than 1 hour		
	130%<load<150%, for more than 6 minutes		
	>1000%, for more than 100 ms		
Output			
Output voltage	120/208 VAC		
Voltage precision	±1% (balance load), ±2% (unbalance load)		
Voltage THD (Total Harmonic Distortion)	THD<2% (linear load), THD<5% (nonlinear load)		
Power factor	0.8		
Phase tolerance	120°±0.5°(balance and unbalance load)		
Crest factor	3:1		
Overload capability	Up to 105%, continuous operation Up to 110%, transfer to bypass after 1hour Up to 125%, transfer to bypass after 10 minutes Up to 150%, transfer to bypass after 1 minute >150%, transfer to bypass after 200 ms		
System			
System efficiency	Normal mode: 90%		
	ECO mode: 99%		
Battery mode efficiency	90%		
Display	LCD+LED, Touch screen and keyboard		
IP class	IP20		
Interface (Communication Ports)	RS232, RS485, Dry Contacts, SNMP Card, EPO, Generator Interface		
Installation/Connection	Top or bottom cable connection		
Operation temperature (Electronics)	0-40°C (to 50°C with 15% derating)		
Storage temperature	-25°C to +70°C (Battery may be different)		
Relative humidity	0-95% (non-condensing)		
Noise (dB)	<55dB		
Weight (kg/Lb) **Note: Cabinets do not need to be fully populated**	6-module Cabinet	NERM036/06L, NERM072/12L	150kg/330Lb
	10-module Cabinet	NERM072/06L, NERM120/12L	180kg/390Lb
	NEPM06L 6KVA	20kg/44Lb	
	NEPM12L 12KVA	22kg/49Lb	
Dimension (W*D*H)(mm/inch)	6-module Cabinet	600*900*1600 / 23.6*35.5*63	
	10-module Cabinet	600*900*2000 / 23.6*35.5*78.8	
	Module (6/12 KVA)	430*600*134 / 17.3*23.6*5.27	

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