Innovation, Reliability | TSINE
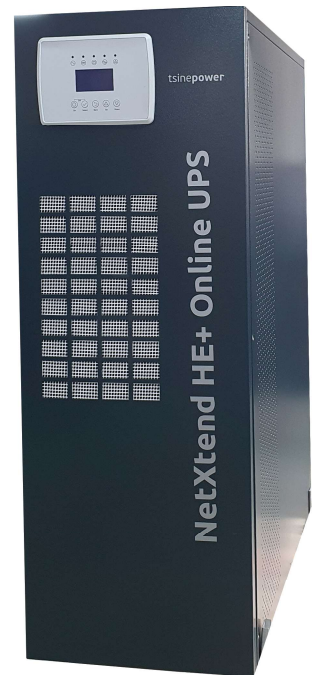
NetXtend HP+
Online UPS

Ultimate Power Protection, True Savings!

The **NetXtend HP+** UPS presents enhanced power protection & performance, highest availability & versatility for mission-critical loads & systems in your infrastructure.

Thanks to the highly reliable DSP control, IGBT rectifier & three level igbt inverter design, the UPS secures & optimizes the powerflow for both upstream and downstream paths.

Three level highly-efficient design dramatically reduces CAPEX & OPEX and gives the power of control to the user while offering minimised RoI period.

NetXtend HP+, TSINE expertise behind and premium components inside, is engineered to meet the needs of demanding environments & businesses worldwide.

Product Snapshot

* Online, three level, highly-efficient design, efficiency is up to 94.5%
* True discrete architecture for power modules, superior MTBF & MTTR values, maximum availability and uptime for the systems & loads connected to the ups, great serviceability.
* Built-in isolation transformer, more electrical & mechanical robustness.
* Intelligent battery management, extended battery lifetime, flexible DC bus.
* Robust & reliable operation at very high temperatures, harshest environments, challenging environments and loads.
* True and dynamic R&D, custom designs and device variations for the applications & systems in the field.
* Superior connectivity standards, LCD display, user & service friendly LCD navigation and menus.

Fields of Use

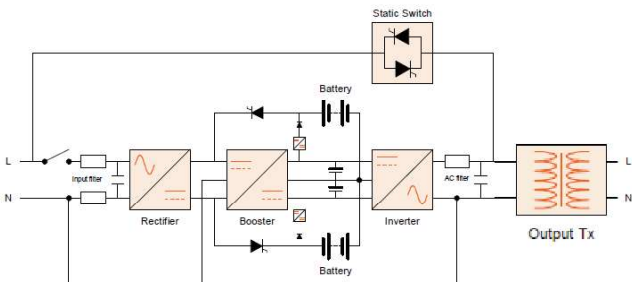|			
Data Centers & IT Environment	Healthcare Imaging Systems	Telecom	Airports & Aviation
Financial Sectors & Banking	Industry	Oil & Gas PetroChemistry	Facilities, Hotels, Builldings

Innovation, Reliability

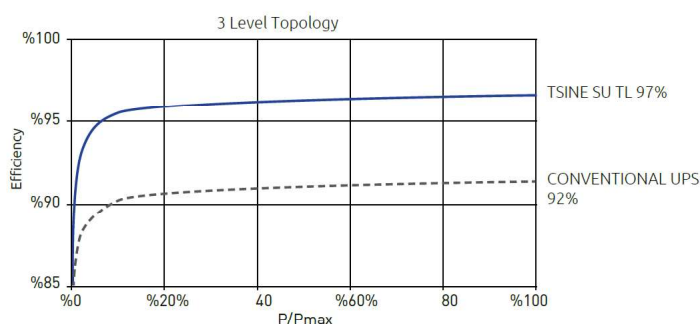tsinepower

Electrical

A Total Isolation of Loads & Systems from Mains

True VFI | online double conversion, three level AC~DC/ DC~AC topology & output isolation transformer guarantees the complete isolation of critical load from any mains disturbances.

Controlling Both CAPEX and OPEX

Delivers industry leading 94.5%* AC~AC online double-conversion efficiency three level topology without sacrificing reliability. Thanks to its highly efficient design, savings can reach up to 25% in dissipated energy in one year compared to conventional UPS [88%] systems resulting in a faster payback period of 4 years as ROI.
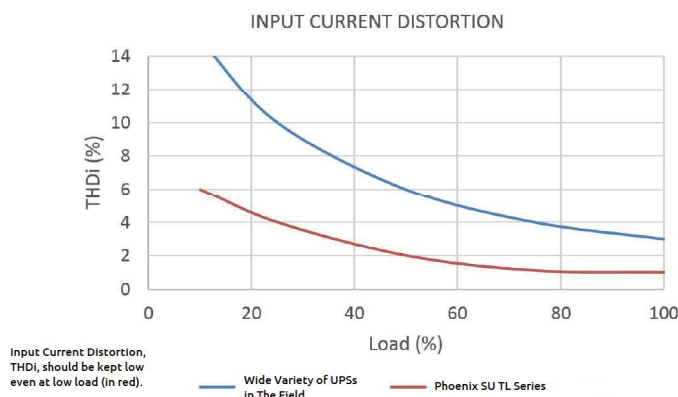

NetXtend HP+, The Power of Control

Thanks to highly-efficient operation of **NetXtend HP+** UPS, efficiency levels, starting from 93% at 50% load rates, HVAC systems and cooling infrastructure initial investment, [CAPEX], is kept at minimum while cooling costs such as power, maintenance of HVAC units, [OPEX], are at its minimum
Keeping power & cooling infrastructure cost at minimum along with operating costs at minimum, **NetXtend HP+** UPS gives the power of control.

Zero Impact to Upstream/ Source Design

High frequency, IGBT rectifier & three level inverter design via PWM technique presents active power factor correction at input which lowers THDi at input & maximizes the input power factor as > 0,99. This leads minimized generator : UPS sizing, less investment and costs due to very low harmonics. The system reduces the effect on utility and the loads connected to the same network with the ups itself. IGBT design at the inverter stage also brings high output power as 0.8, 0.9 or 1, Unity PF while reducing the THDv as low as 2%.
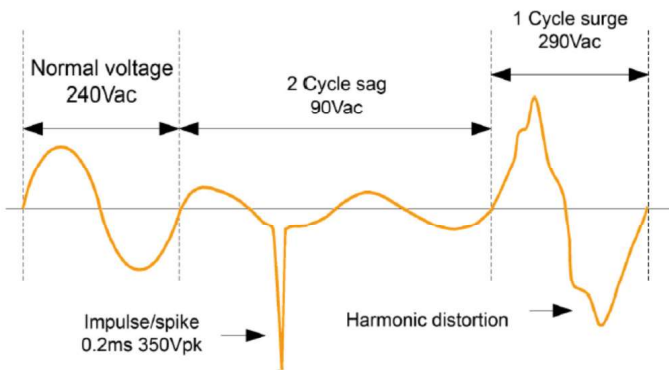

Input Current Distortion, THDi, should be kept low even at low load (in red).

Wide Variety of UPSs in The Field   Phoenix SU TL Series

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Electrical

Normal voltage 240Vac

2 Cycle sag 90Vac

1 Cycle surge 290Vac

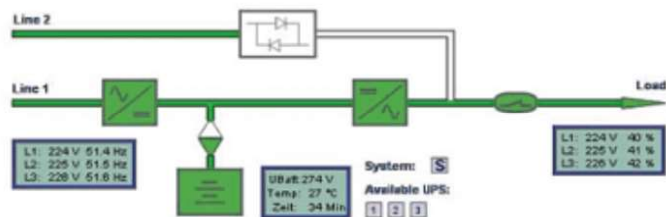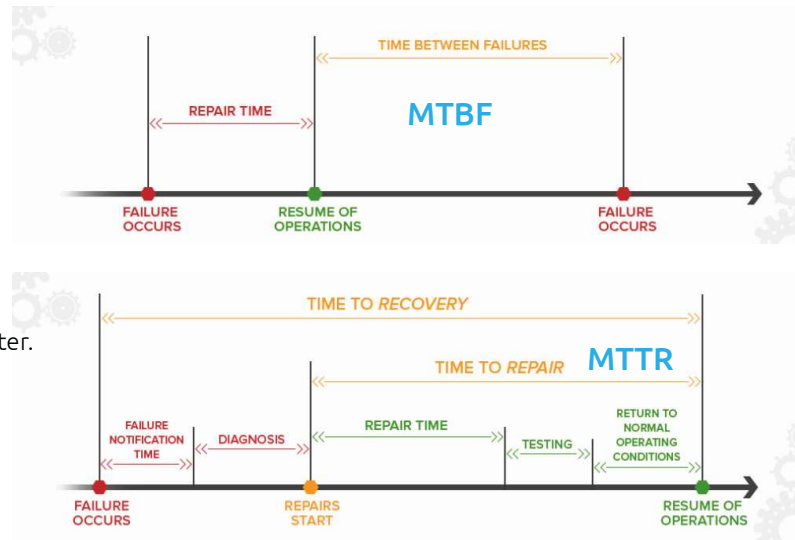Impulse/spike 0.2ms 350Vpk

Harmonic distortion

High Robustness, High Reliability & Max. Availability

NetXtend HP+ Series UPS offers high electrical & mechanical robustness, high reliability for various industries & applications.

The UPS uses the latest IGBT-PWM technology & DSP control to provide maximum power protection performance, increased power quality & clean, continuous power for any type of application.

Its robust design, proven reliability and maximised availability offers dramatically decreased operational downtimes and costs during its lifetime

It also offers greater adaptability, versatility in system configurations, higher immunity against harmonics, poor utility power.

Reliability, Availability and Serviceability (RAS)

Maximized availability and reliability by the power engineering at its top level, **NetXtend HP+** UPS offers very robust & reliable power protection, this also leads minimized downtime and highest level of availability. Very high level of MTBF [Mean Time Between Failures] and very low MTTR [Mean Time to Repair] ensures the critical load not to fail for its duty.

Serviceability is a measure of the system to be recovered after a disaster. A min. of 15 mins. of enough for a technician to diagnose and recover the system to reduce the downtime for business.

Intelligent Battery Management

The UPS **NetXtend HP+** provides extended service life for batteries via its three stage charging mode. Thanks to its innovative software helps the user to monitor battery health & remaining back up period, extended scalable battery runtimes is not a matter with **HP+** UPS.

TSINE offers high capacity chargers up to 36A with its **HP+** design.

Lightweight, compact design

Compact structure brings ease of transport, ease of installation and maximizes power density in minimum footprint, rackmount design inside the outdoor cabinet.

TSINE | Power Quality

tsine**power**

UPS Ratings

Rated Power [kVA]	10 15 20 30 40 60 80 100 120	
Active Power [kW]	8 12 16 24 32 48 64 80 96	Output PF = 0.8
Active Power [kW]	10 15 20 30 40 60 80 100 120	Output PF = 1, kVA=kW, Unity PF

General Characteristics

MTBF/ MTTR	Over 250000 Hours/ Below Than 15 Minutes
UPS Type & Technology	VFI | Online Double Conversion [Complete Isolation of Output Load with Any Mains Disturbances] High Frequency Operation, IGBT Rectifier & Inverter, **Three Level IGBT Technology, Highly-efficient, Built-in Isolation Transformer** DSP Microprocessor Control via SPWM Technique
62040-3	COMPATIBLE
Power Factor	0.8 & 1.0, kVA=kW, Unity PF
Input Voltage Range	± 20% @100% Rated Load
True Redundancy	N+X, N+1 Redundant Configurations
Parallel Configuration [N+1]	Up To 8 Units
Standard Protection Features	Input Power Limiting, Phase Reversal, Power Module Over Temperature, Over Current, High Temperature Alert, Smart Short Circuit, Regenerative Load, Current Limiting, Charging Current Limiting, Temperature Compensated Charging.
Operating Conditions	20 ºC, <1000m Above Sea Level, <45% to 55% RH, for Best Performance and Optimised System Lifetime & Health
Cooling/ Isolation	Forced Air Cooling via Redundant Fans, Smart Fan Speed Control
Display & Parameters Data Shown on LCD LCD Display	Utility, Bypass, Battery, Inverter, Output, Fault & Warnings LCD Display : Inverter,Bypass, Battery, Load, Battery Mode, Frequency, UPS Fault Indicators, Input, Bypass, Output L-N Voltages [V] & Frequency [Hz], Input & Output Currents [A], Load Percentages [%] for Each Phase, Ambient Temperature [ºC], Battery Voltage, Event Log with 512 Real Time Info,, Battery Capacity.
Maintenance Bypass	STANDARD
Material [Casing]/ Colour	BLACK
Cable Entry	REAR BOTTOM

Efficiency

AC~AC Mode	Up To 94.5%, 93% Efficiency Starting from 50% Load
Eco-Mode	> 97%

Input Characteristics

Rated Voltage & Range	380/ 400/ 415 VAC 3P+N+PE ±20% @100% Rated Load, -36%~+20% @40% Rated Load
Rated Frequency & Range	50/ 60 Hz, 40~70 Hz
Power Factor	> 0,99 Active Power Factor Correction Circuitry
Current Distortion [THDi]	< 3%

Static Bypass

Rated Voltage & Range	380/ 400/ 415 VAC 3P+N+PE ± 10%
Rated Frequency & Range	50/ 60 Hz ± 4% [Default, Adjustable between ± 10%]
Dual Input	Optional, Available

Battery

UPS Rating [kVA]	Charger Type/ DC Voltage	Charger Type/ DC Voltage
10	pf 0.8, , 1A Analog Std., 20 * 12Vdc; 3-4A Analog Opt., 20-32 * 12Vdc	pf 1, Unity PF, 15A Digital, 20-46 * 12vdc
15	pf 0.8, 3-4A Analog Std., 30-32 * 12Vdc	pf 1, Unity PF, 15A Digital, 20-46 * 12vdc
20	pf 0.8, 3-4A Analog Std., 30-32 * 12Vdc	pf 1, Unity PF, 15A Digital, 30-46 * 12vdc
30	pf 0.8, 3-4A Analog Std., 30-32 * 12Vdc	pf 1, Unity PF, 15A Digital, 30-46 * 12vdc
40	pf 0.8, 3-4A Analog Std., 30-32 * 12Vdc	pf 1, Unity PF, 15A Digital, 30-46 * 12vdc
60	pf 0.8, 15A Digital Std., 40-46 * 12Vdc	pf 1, Unity PF, 15A Digital, 40-46 * 12vdc
80	pf 0.8, 15A Digital Std., 40-46 * 12Vdc	pf 1, Unity PF, 15A Digital, 40-46 * 12vdc
100	pf 0.8, 15A Digital Std., 40-46 * 12Vdc	pf 1, Unity PF, 15A Digital, 40-46 * 12vdc
120	pf 0.8, 15A Digital Std., 40-46 * 12Vdc	pf 1, Unity PF, 15A Digital, 40-46 * 12vdc

Intelligent Battery Management Operating Temperature	Temperature compensated charging, Deep discharge protection, Scheduled/Automatic & Manual Battery Tests, 25ºC, Float, Boost and Float-Constant Charger Modes, - The batteries are totally isolated from DC bus of UPS, so that the sudden changes in load or utility does not affect the batteries. UPS does not drawn current from batteries. - Even 90-100% rated output loads + -20/ 30% voltage drops in the mains voltage, the ups continues its operation only from mains, does not use battery reserve power to respond to the output load while some competitors uses battery power to support the ups' s DC bus. - The NetXtend HP+ allows the batteries to respond to the high output loads with pure sinewave till the very low end of discharge voltages, while some other may risk the output wave as square wave.. - Analog charger allows the user to adjust the number of batteries, charging voltage and current, - Digital charger allows the user to adjust the number of batteries, charging current, DC cut off voltage from LCD

Output Characteristics

Rated Voltage & Accuracy	380/ 400/ 415 VAC 3P+N+PE (Adjustable from front Panel) < ±1% at 100% Rated Linear-Static Load, < ±2% at Non-Linear Load; < ±5% at Dynamic Loads (VFI-SS-11)
Rated Frequency & Accuracy	50/ 60 Hz (Selectable), ±0.1% (Synchronized to Mains) ±0,1% (Free Running Mode, Selectable)
Power Factor	0.8 or 1, kVA=kW, Unity PF (Depending on Order)
Voltage Distortion [THDv]	≤2% (at 100% Linear Load), ≤5% (at 100% Non-linear Load)
Crest Factor	3:1
Unbalanced Load & Acceptable Load PF	Compatible with Operation on 100% Unbalanced Load 0,8-1 Leading to 0,8-1 Lagging without Any Degradation
Overload Operation	60 mins for Output Load ≤ 110% Rated Load 10 mins for Output Load ≤ 130% Rated Load 1 mins for Output Load ≤ 150% Rated Load 300 ms and then Switches to Bypass Line over 150% Rated Load

Communication & Supervision

Remote Monitoring &Management	*Standard (Available As Hardware & Software)*: RS232 Serial Comm. Port, RS485 MODBUS (Optional), 3 Programmable Dry Contacts, SNMP Slot, EPO-Emergency Power OFF Button, Genset, Remote EPO, Remote Start/Stop, Battery Temp., *Optional (Standard in Software, Optional as Hardware)*: SNMP - Network Management Kit [External or Internal], Customized Dry Contact Signals, Remote Monitoring & Management Panel, GSM/GPRS Modem.

Environment

Operating Temperature Range Prespecified Operating T. Storage Temperature	0ºC - 40ºC/ 20ºC - 25ºC / -15ºC ~ 45ºC
Altitute/ Relative Humidity	< 2000m above sea level/ < 95% (non-condensing)
Noise	< 55 dBA [Depending on The Load & Environment Conditions]

Certifications

Safety	EN 62040-1
Electromagnetic Compability [EMC]	EN 62040-2
Performance [VFI-SS-111]	EN 62040-3
Safety	EN 60950-1 Information Technology Equipment
Quality Management	CE, ISO 9001:2015, ISO 14001:2015, GOST

Optional Features & Accessories

Isolation Transformer	Built-in Output Isolation Transformer, Optional for Input
Custom Input Voltage Range	Optional
IP Classified Enclosure	Available from IP21 ~ IP 66
Others	Paralelling Kit, Network Management Kit, External Bypass, Remote Monitoring & Management Panel, UPS Looking Battery Enclosures...etc

Physical

UPS Rating [kVA]	10 15	20 30	40 60 80	100 120
Dimensions [mm]	991x302x862	1200x430x960	1200x430x960	
Weight [kg]	125 130	185 205	260 355	
Protection Degree	IP20 (Standard)			

Part Numbers

UPS Rating [kVA]	OUTPUT PF: 0.8	OUTPUT PF: 1, Unity PF, kVA=kW
10	NXHPIXX01000	NXHPIU01000
15	NXHPIXX01500	NXHPIU01500
20	NXHPIXX02000	NXHPIU02000
30	NXHPIXX03000	NXHPIU03000
40	NXHPIXX04000	NXHPIU04000
60	NXHPIXX06000	NXHPIU06000
80	NXHPIXX08000	NXHPIU08000
100	NXHPIXX10000	NXHPIU10000
120	NXHPIXX12000	NXHPIU12000

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For More Information on The
UPS NetXtend **HP+**, Please Visit
www.tsinepower.com