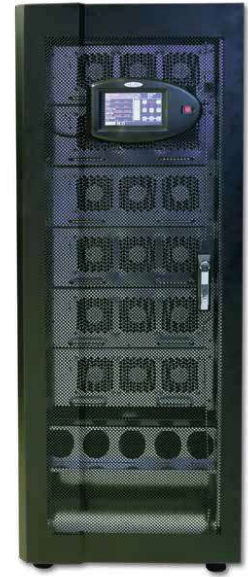


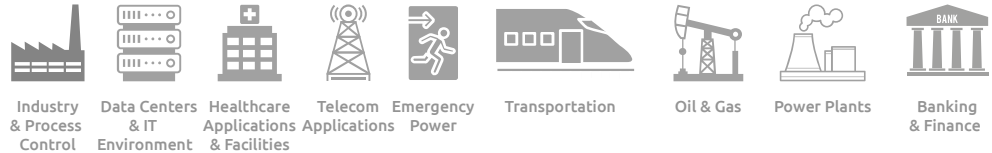
SkyEX Modular UPS

Availability, Modularity, Scalability, Efficiency

The new SkyEX UPS presents high level of availability, true versatility, scalability and industry leading efficiency along with minimised CAPEX & OPEX



Key Applications



Product Snapshot

Delivers An Outstanding Power Performance & Increased Power Quality

- Advanced three level design.
- Delivers 96% UPS efficiency without sacrificing reliability.
- IGBT rectifier & inverter, superior to the legacy ups systems.
- True modularity & redundancy via hot-swappable power modules.
- Decentralised parallel design, static bypass unit & self system controller inside.
- Over-engineered, maximised fail-safe and fault tolerant design, additional circuit redundancy, enhanced stability of current sharing between modules.
- Maximised availability & reliability, total protection of UPS & critical load against failures & damages, unbeatable parallel redundant operation in business-critical environments and applications.
- Standard output PF as 0.9 & 1 Unity PF [kVA=kW] as an option.
- Pay as You Grow! Scalable to 120/200 kVA* vertically, 6.4 MVA horizontally on-site by simply adding 10/15/20 or 40 kVA hot swappable plug&play power modules.
- Greater power with high-density power modules & system design in minimum footprint.
- Effective usage of batteries, hot-swappable battery packs. (Optional)
- Ease of transport & installation, user-friendly operation, service-friendly design.

Controlling Both CAPEX and OPEX

- Delivers industry leading 96%* AC~AC online double-conversion efficiency without sacrificing reliability. Thanks to its highly efficient design, savings can reach up to 35% in dissipated energy in one year compared to traditional legacy UPS [91%] systems resulting in a faster payback period of 4 years as ROI.
- Keeping power & HVAC cooling infrastructure initial investment cost [CAPEX] along with the operating costs [OPEX] like cooling costs such as power, maintenance of HVAC units at minimum. The UPS SkyEX gives the power of control.
- Scalability - Pay as You Grow! Capacity can flex to meet power infrastructure growth by adding an additional ups in the field, ease of expansion from medium-sized installations to hyperscale infrastructures.

The UPS SkyEX: Pioneer in Modular UPS Technology

The new SkyEX Modular UPS delivers unrivaled UPS availability, true modularity, scalability & high efficiency for critical applications which represent valuable commercial asset that must be kept powered at all costs.

The UPS SkyEX is designed with best-in-class parallel architecture to provide maximum power protection performance, increased power quality & continuous power with full redundancy & fault tolerance. in a way that is unique amongst UPS manufacturers.

Hot-swappable 10/ 15/ 20/ 40 kVA power modules with 0.9 output power factor and Unity PF = 1 = kVA=kW, redundant circuitry which minimise single point of failures, decentralized parallel design, static bypass unit & self system controller, enhanced stability of current sharing between modules & state of art fail-safe system controller makes SkyEX right choice for clean, continuous power for mission-critical loads by the proven data against traditional legacy ups system along with many rivals existing in the market.

The SkyEX designed to grow with the increased power needs of the critical environment.

The parallel, redundant system is quickly and easily upgradable on-site through plug & play power modules. High AC~AC efficiency as 96% even at low load rates, prolonged battery life & reduced battery use, very low maintenance costs and affordable service plans for SkyEX boosts industry' s lowest TCO & fastest ROI.

Reliability, Availability and Serviceability (RAS)

Maximized availability and reliability by the power engineering at its top level, SkyEX 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.

Technical Specifications

UPS Rating [0,9 & Unity Power Factor = 1]

Rated Power [kVA]	Available in 10 kVA - 6.4 MVA
Power Cabinets [kVA]	60 kVA/ 120 kVA/ 200/ 250 kVA
Power Modules [kVA]	10/ 15/ 20/ 30/ 40/ 50 kVA
System Configuration	Up to 6 Units 10 kVA Power Modules in 60 kVA Power Cabinet Up to 6 Units 20 kVA Power Modules in 120 kVA Power Cabinet Up to 5 Units 40 kVA Power Modules in 200 kVA Power Cabinet Up to 5 Units 50 kVA Power Modules in 250 kVA Power Cabinet

System Controller & User Interface

Display Type	Touch Screen TFT LCD
Fail-Safe Design	In the event of a power module failure, the system will continue to operate uninterrupted. Each power module has its own redundant controlled and static bypass, Zero interruption to the load.
Available Languages	5 Standard - EN-TR-SP-FR-RU
Power Analyser	kVA, kW, PF Info
Real Time Clock	Standard with Dynamic Estimation of Back Up Period
Event Log	500 Events with Details & Info, Downloadable via USB-Ethernet
Smart Event Notification & Scheduled Shutdown for Servers	Controlled Shutdown. Alerts sent directly to email in the event of a malfunction (Standard - up to 10 users) Text message alerts sent directly to the user in the event of a malfunction (Optional) Scheduled Automatic Shutdown of Servers on Battery Mode (Standard)
On-Screen Parameters	Load Bar-Graph, 3 Phase Voltages & Currents & Frequencies, Battery Voltage, Status Info for Each Power Module, Static Bypass Module Parameters & Status Info, Battery Temperature
Alarms	AC Failure, DC Failure, UPS Module(s) Failure, Bypass Mode, Battery Test Failure, Over Temperature, Overload Operation, 40 Other Alarms Listed in User Manual, Audible Alarms
Connectivity, Communication & Supervision	SNMP-Remote Monitoring (MS Windows), TCP/IP, Monitoring Over Web Browser, Hot swappable smart slot card, RJ -45 interface port, USB, RS232, RS485, MODBUS, Optional GPRS/SMS Wireless
Communication with Power Modules	Serial, Isolated
Analog Inputs	4 Programmable Dry Contacts
Voltage-free Outputs	6 Programmable Dry Contacts

General Characteristics

MTBF/ MTRR	Over 250000 Hours
UPS Type & Technology	VFI-SS-111 Online Double Conversion, Three Level Technology DSP Microprocessor Controlled, Hot-swap Modular Architecture
62040-3	COMPATIBLE
Power Factor	0,9 as Standard, 1 kVA=kW Unity Power Factor (Optional)
True Redundancy	N+X, N+1 Redundant Configurations
Parallel Configuration [N+1]	Available Up To 6400 kW
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, Emergency Power Off (EPO).
Operating Conditions	25 °C, <2400m Above Sea Level, <45% to 55% RH, for Best Performance
Cooling/ Isolation	Forced Air Cooling via Redundant Fans - Smart Fan Speed
Maintenance Bypass	STANDARD
Material [Casing]/ Colour	RAL 9005
Cable Entry	REAR/FRONT BOTTOM
Operation Modes	Normal Mode: The input rectifier & output inverter operates in an on-line status to continuously regulate power to the critical load. Battery Mode: Upon failure of the AC input source, the critical load is being continued to be supplied by the inverter, which derives its power from the battery system without any interruption. Recharge: Upon restoration of the AC input source, the UPS simultaneously recharges the battery and provides regulated power to the critical load. Static Bypass: The static bypass shall be used to provide transfer of critical load from the inverter output to the bypass source. Internal Mechanical Bypass: The UPS shall be equipped with an internal, make before break, bypass switch. External Maintenance Bypass (EMB): The system is equipped with an external Maintenance Bypass switch (MBS) to electrically isolate the UPS during routine maintenance and service of the UPS. Smart- efficiency mode: yes

Brand Name: tsinepower
Manufacturer: TSINE ELECTRONICS INDUSTRIES CO., LTD.
Product origin: REPUBLIC OF TURKEY
Product model/ make : SKYEX SE3201201U060

Efficiency

AC~AC Mode, On-line	Up To 97% at 100% Rated Load, 95.5% at 50% Rated Load
Eco Mode	< 98%

Input Characteristics

Rated Voltage & Range	380/ 400/ 415 VAC 3P+N+G -36%~20%
Rated Frequency & Range	50/ 60 Hz ± 10%
Power Factor	> 0,99 Active Power Factor Correction Circuitry
Current Distortion [THDi]	> 4%
Power Walk-In	Between 1-30 seconds, with 1 s intervals

Battery / Back Up Power

Rated Voltage [DC]	480DC, 40 ± 4 * 12VDC (Adjustable) VRLA AGM Sealed Lead Acid, Gel
DC Input Voltage Range	460~594VDC
Intelligent Battery Management	Temperature Compensated 4 Stage Charging, Manual & Scheduled Battery Test, Real Time Dynamic Remaining Back Up Calculation, Scheduled Automatic Shutdown of Servers on Battery Mode, Modular hot-swappable battery pack modules, 25% of Rated Power, 25°C
Modular Hot-Swap Battery Packs	
Charging Capacity	
Operating Temperature	
Battery Configuration & Runtime	80 pcs GNB Exide XP12V2500 model battery, VRLA AGM, SLA Maintenance Free, Made in Portugal, US Brand Name Precise Runtime is : 60 minutes back up @ 100% rated load, 50 kVA/ 50 KW 2 hours back up @ 54% load, 27 kW 3 hours back up @ 39% rated load, 19.5 kW
[Project Special]	

Output Characteristics

Rated Voltage & Accuracy	380/ 400/ 415 VAC 3P+N ± 1% for Static Load, for Dynamic Load (Step Load) : ± 5%
Rated Frequency & Accuracy	50/ 60 Hz (Selectable), ± 1% (Synchronized to Mains, Adjustable up to ± 5%), ± 0,1% (Free Running Mode, Selectable).
WaveForm	Pure Sine Wave - Sinusoidal
Voltage Distortion [THDv]	2% (@100% Linear Load), 4% (@100% Non-Linear Load)
Crest Factor	3:1
Unbalanced Load & Acceptable Load PF	Compatible with Operation on 100% Unbalanced Load 0.3 to 1
Overload Operation	60 minutes @ 110% Rated Load 10 minutes @ 125% Rated Load 1 minutes @ 150% Rated Load Switchesto Bypass over 150% Rated Load

Environment

Operating Temperature Range	
Prespecified Operating T.	-10°C - 40°C/ 15°C - 25°C / -30°C ~ 70°C
Storage Temperature	
Altitude/ Relative Humidity	< 2400m above sea level without derating of output power < 95% (non-condensing)
Noise	< Up to 60 dB for 200 kVA

Certifications

Safety	EN 62040-1
Electromagnetic Compability [EMC]	EN 62040-2
Performance	EN 62040-3
Quality Management	ISO 9001:2015, TUV

Optional Features & Accessories

Parallel Redundancy	Available
Isolation Transformer	Available For Input/ Output
Hot-Swappable Battery	Available
Extended Runtime	Available
Maintenance Bypass Cabinet	Available
Custom Input Voltage Range	Available
IP Classified Enclosure	Available from IP21 ~ IP 66

Physical

Dimensions & Weight	See Ratings & Dimensions Chart
Protection Degree	IP20 (Standard)



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