

SP3 - TS SERIES



SP3-TS

Three Phase UPS 10KVA - 60KVA

**CUTTING EDGE TECHNOLOGY FOR
HIGH PERFORMANCE 3PHASE UPS**

SP3-TS

THREE PHASE UPS SERIES

The SP3-TS is a three-phase, new generation of transformer-less UPS with power factor 1.0 which provides a perfect solution for power protection, and solves power quality problems such as surges, spikes, voltage fluctuations, harmonic distortion, clutter interference and frequency fluctuations.

The SP3-TS series is available 10-20-30-40-60kVA with three-phase input and output and on-line double conversion technology. Controlled by digital signal processor (DSP), it guarantees maximum protection for the installations supplied with a significant energy savings. Moreover, the dual feed on the UPS input gives more reliability to the system.



**SP3-TS
10-40KVA**



**SP3-TS
60KVA**



**10-40KVA
WITH INTERNAL
BATTERIES**

SP3-TS is available in 10, 20, 30, 40kVA output power rates with internal space for housing max 80 batteries. Further extent reliability is accomplished by introducing intelligent charge mode which significantly prolongs service life of batteries.

To make it more flexible on the existing installation, SP3-TS can work with a wide range of battery number: 32-34-36-38-40 blocks per string.

- POWER FACTOR 1.0
- 3 LEVEL IGBT TECHNOLOGY
- INTERNAL BATTERY FOR 10-20-30-40kVA SYSTEM
- TRUE ONLINE TECHNOLOGY FOR MAXIMUM POWER PROTECTION
- FULL LOAD RATED NO BREAK DUAL SOLID-STATE STATIC SWITCH

EFFICIENT ENERGY SOLUTION

Power performance by providing a clean rectifier connection to the utility power. It meets today's industry standards for energy saving, low current harmonic pollution to the utility power.

HIGH EFFICIENCY FROM LOW LOAD TO FULL LOAD

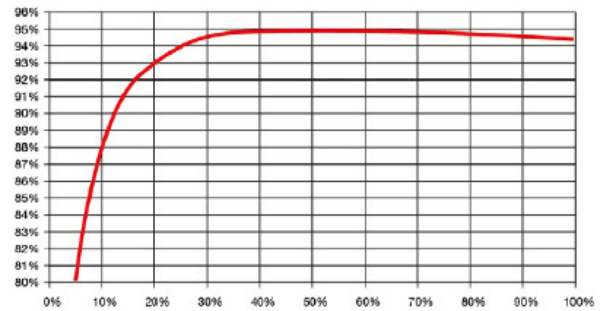
The state-of-the-art three-level inverters of SP3-TS delivers high efficiency at partial and full load (up to 95 % in double conversion on line mode), dramatically reducing operating cost of the system, extending components service life and increasing overall power performance.

This high performance makes possible to recover the investment in less than three years of operation.

SUITABLE FOR THE LATEST GENERATION OF SERVERS

SP3-TS is designed to provide output power factor 1.0, so the kW = kVA. It supply loads for both leading and lagging without de-rating. For this reason SP3-TS fits perfectly with the new generation of server (capacitive load).

The SP3-TS manage the input current total harmonic distortion (THDi) at a low level (3% at 100% load), eliminating harmonic distortion at the input of the system, providing greater operation reliability and extending the service life of UPS.

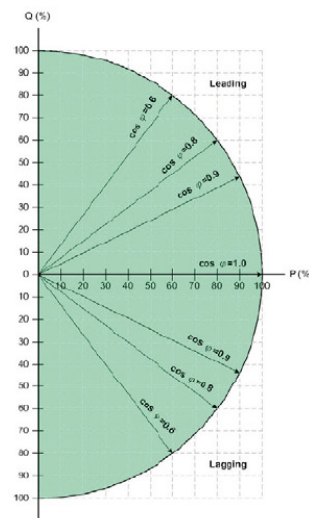


3 WORKING MODES:

Normal Mode (Online Mode): In Normal mode, grid power is passed through Rectifier then used to charge the battery and provide power through the Inverter simultaneously.

Economy Mode (ECO): Economy mode effectively improves overall efficiency. In ECO Mode grid power is routed through the Static Switch to the load.

Converter Mode: Converter mode allows the user to provide a power supply with constant voltage and constant frequency based on their power requirements. The frequency can be set to 50Hz or 60Hz. The voltage options are 380/220V, 400/230V and 415/240V.

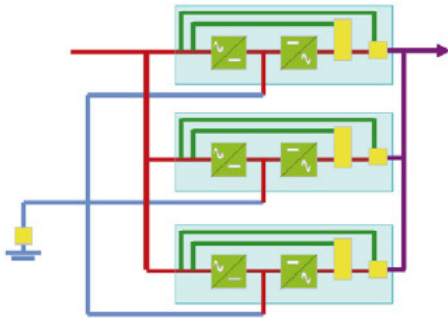
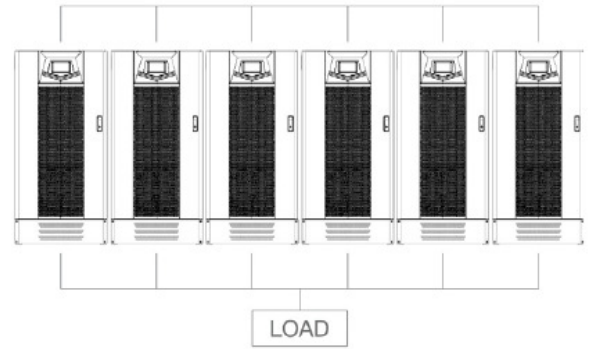


- LOW INPUT HARMONIC DISTORTION, THDi <3%
- UP TO 95% EFFICIENCY IN DOUBLE CONVERSION MODE
- HIGH INPUT POWER FACTOR ≥ 0.99
- 3 WORKING MODES: NORMAL, ECO, CONVERTER MODE
- LEADING AND LAGGING WITHOUT DE-RATING

HIGH FLEXIBILITY

With a transformerless design and Energy Storage System (ESS) technology, the SP3-TS is available in various configurations with integrated enclosures and external battery cabinets, ranging from 10kVA to 60kVA to suit your requirements.

The Parallel Redundant System (up to 6) can be configured with common battery bank or individual battery bank to achieve the required back up time autonomy, providing highest load availability and reliability with cost effectiveness. The UPS continue to operate in parallel even if the connection cable is interrupted (Closed Loop).



COMMON BATTERY

SP3-TS offer the possibility to connect common or individual battery and allows flexible string voltage.

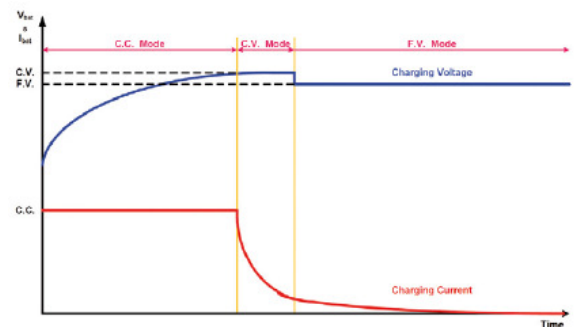
The number of batteries is programmable: 32, 34, 36, 38, 40 blocks (12V), to achieve optimal sizing of battery capacity and minimal investment.

3 CHARGING MODES

SP3-TS UPS battery intelligent system consists of a series of features and programs to optimise battery management and obtain the best performance and operating life. It offers 3 battery charging modes:

- C . C. Mode: Constant current charge
- C . V. Mode: Constant voltage charge (Equalizing)
- F . V. Mode: Constant voltage charge (Floating)

This system allows recharging the battery in shorter time and preserving the battery life.



- COMMON BATTERY BANK OR INDIVIDUAL BATTERY BANK CONFIGURABLE
- INTELLIGENT BATTERY MANAGEMENT
- UP TO 6 UNITS POWER SCALABLE AND PARALLEL REDUNDANCY
- SELECTABLE NUMBER OF BATTERY PER STRING
- DUAL INPUT

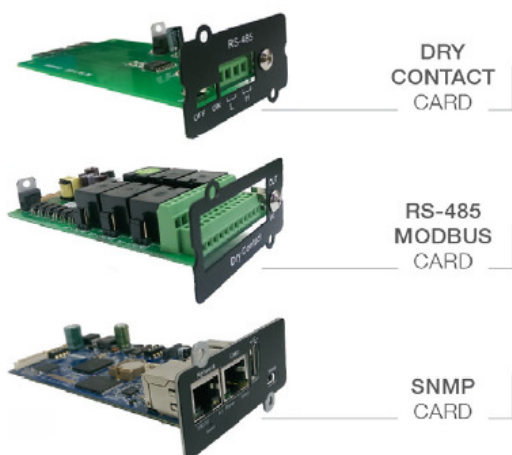
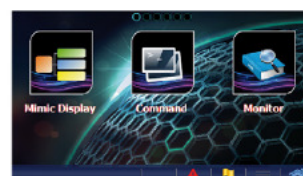
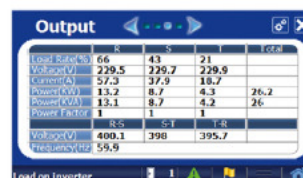
BUILT-IN LCD TOUCH SCREEN

SP3-TS is a really user friendly UPS as it is equipped with a 4.3" LCD Touch screen. It provides: UPS information, measurement values, operating status and alarms in more languages. It is also possible to implement it by adding more languages if required.

The graphic user interface has been designed with 2 access levels (user, maintenance) to allow the different users to access or modify only specific parameters.

From the LCD is possible to read and download all the event logs to analyse the status of the UPS and maintain the unit on the proper way.

It is also possible to make graphic customization if customer requires.



COMMUNICATIONS AND REMOTE MANAGEMENT

Communication Slot 1 for Relay card and RS-485 MODBUS card.

Communication Slot 2 for Relay card and SNMP card

RS232 serial and **USB** ports

3 communication cards available: dry contact, RS485 and **SNMP** communication CARD

LED Status Indicators

EPO-- Emergence Power Off

Temperature sensor to measure the external battery temperature

Backfeed Trip to trip the external electromechanical device for isolation from the power circuit

Output & Input Contacts: it provides 3 output dry contacts and 1 input contact

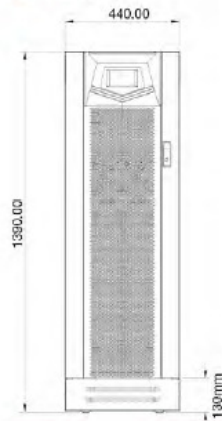
- ADVANCE INTERFACE TOUCH SCREEN DISPLAY
- VFI TYPE ON-LINE
- SMALL FOOTPRINT
- COLD START (OPTIONAL)
- LITHIUM BATTERY



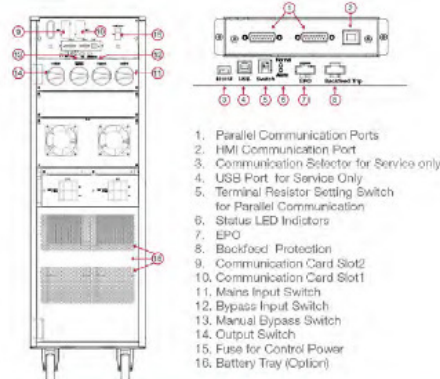
DIMENSIONS

SP3-TS 10-20 KVA

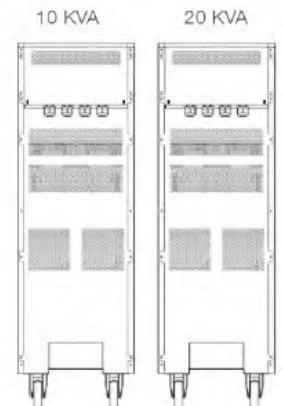
Front view



Internal view

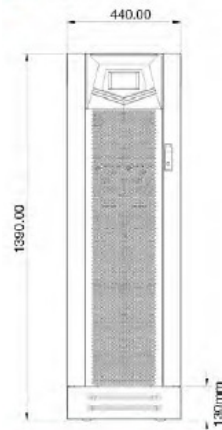


Rear view

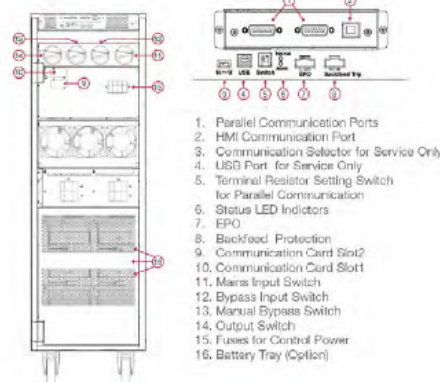


SP3-TS 30-40 KVA

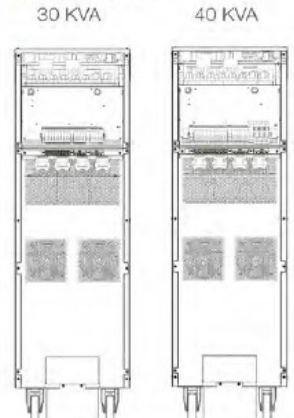
Front view



Internal view

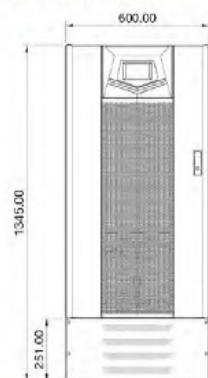


Rear view

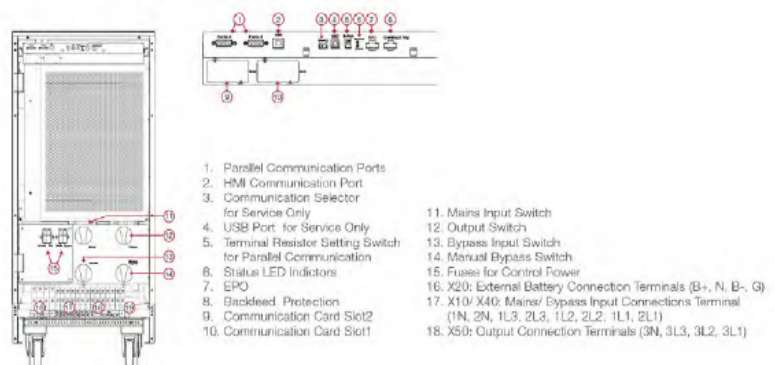


SP3-TS 60 KVA

Front view



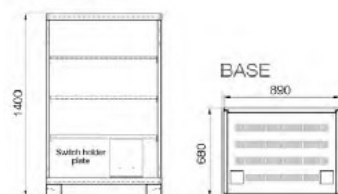
Internal view



BATTERY BANKS

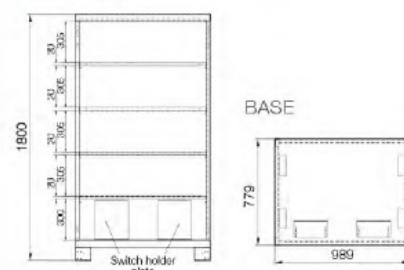
A1-0000 / A2-0000

FRONT VIEW



B1-0000 / B2-0000

FRONT VIEW



The battery bank drawings are not to scale.

SPECIFICATIONS

Capacity		10KVA	20KVA	30KVA	40KVA	60KVA
Environment	Operation Temperature	0~40°C				
	Operation Humidity	0~95% (w/o condensation)				
	Tested to standards	LVD: EN62040-1, EMC requirements: EN62040-2				
	Mark	CE				
	Noise (at 1 meter)	<52dBA		<55dBA		<60dBA
Input	Voltage	400V 3 Phase + N				
	Voltage Tolerance	±20% @ 100% load				
	Frequency	45 ~ 65Hz				
	Power Factor	≥0.99				
	THDi	<3%				
Bypass	Voltage	380/400/415V 3 Phase + N				
	Voltage Tolerance	±5%~±25% (Programmable)				
	Frequency	50/60Hz				
	Frequency Tolerance	±1Hz / ±3Hz (Selectable)				
Output	Voltage	380/400/415V 3 Phase + N				
	Voltage Tolerance	±1% (Static Load)				
	Power Factor	1.0				
	Frequency	50/60Hz				
	Frequency Tolerance	±0.01% (free running)				
	Crest Factor	3:1				
	Voltage Harmonic Distortion	<1% with linear load; <3% with distorting load				
	Overload	110% for 60 minutes, 125% for 10 minutes, 150% for 1minutes				
Battery	Number of batteries	32~40pcs configurable				
	Max. Charging Current	3.5A	7A	10A	13A	20A
	Common Battery	Yes				
	Internal Batteries	Available for housing 9Ah 40pcs x 2 strings				Not Available
Efficiency	VFI Mode	94%		95%		
	ECO Mode	98%				
	Backup Mode	93%		94%		
General	Parallel	Up to 6 units				
	Dimensions (W x D x H) mm	440 x 860 x 1390 with Wheel				600x827x1345 with Wheel
	Protection Grade	IP20				
	Display and MMI	4.3" Colorful LCD Touch Screen				
	Built-in Communication Port	RS232, USB, EPO, Dry Contact				
	Optional Communication	2 Communication Slots forSNMP Card, RS-485 Modbus Card, Dry Contact Card				

CONTACT

Tel: +39 0161 991689

E-mail: info@mgepower.com

HEADQUARTERS

Via Trasimeno, 4 Cardano Al Campo

FACTORY UPS ADDRESS

Via Biella 30/B - 13885 Salussola (Biella) Italy