Uninterruptible Power Supply Systems

MicroMate®

Local Area Networks (LAN)
Servers
Data Centers
Cash Registers
Telecomunication Devices
E-Business (Servers Farms, ISP/ASP/POP)
Industrial PLCS
Electro-medical Devices
Emergency Devices (Lights/Alarms)

SR Series

10~20 KVA single/single-phase and three/single-phase
10~120 KVA three/three-phase

SR Series is ideal for the protection of critical information and telecommunications networks which cannot run the risk of being powered from a poor quality electrical supply.

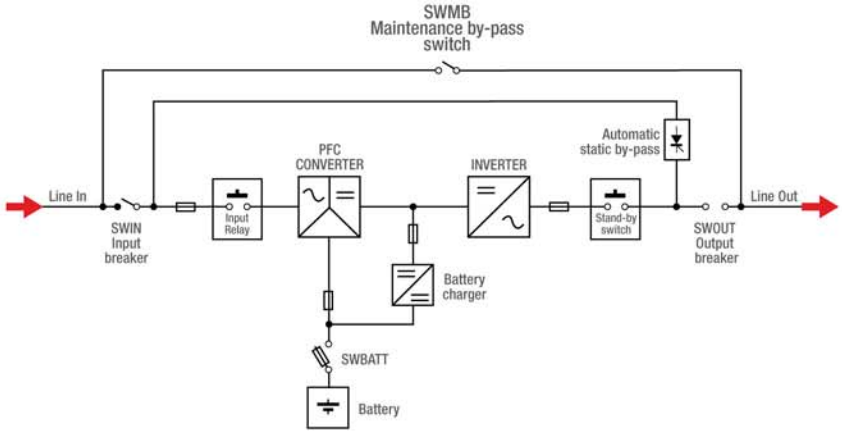
The SR Series is available in 10-12-15-20 kVA three-phase and single-phase input and single-phase output models, and 10-15- 20-30-40 and 60-80-100-120 kVA three-phase input and output models, with double conversion on-line technology according to the VFI-SS-111 classification, as defined by the IEC EN 62040-3 standard.

SR Series has been designed and manufactured using state-of-the-art technologies in order to deliver maximum protection for critical users, a zero impact on the mains power supply and a high operating efficiency.

The high level of flexibility at the design stage means that there is full compatibility both with three-phase power and with single-phase sources, thus eliminating any critical factors in the connection between UPS and system.

ZERO IMPACT SOURCE

The superior technology of a SR Series allows it be used where the site mains power supply is limited in capacity, or has an on-site generator and/or loads that generate current harmonic problems. SR Series is designed to have a zero-impact on its upstream power supply (mains or generator).

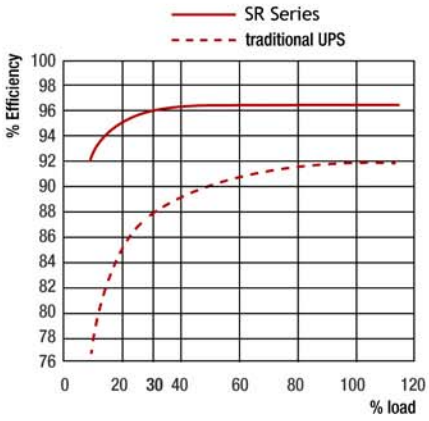


Main Features:

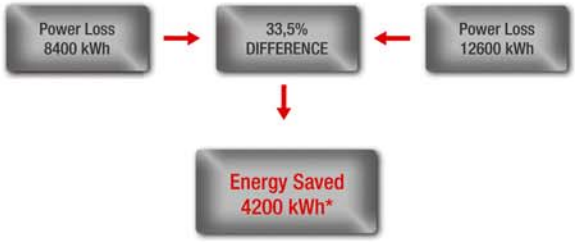
- Reliable, filtered, stabilised and regulated sine wave output (double on-line conversion technology VFI according to EN50091-3 standard) with filters for atmospheric disturbance suppression
- High reliability: IGBT Technology in rectifier and inverter, high frequency PWM, transformerless, fully digital control with microprocessor, no break static and manual transferring
- Cleaned source: power factor correction for unitary power factor and very low input THDI%
- First class in efficiency: high operation efficiency up to 96,5% in normal mode, up to 99% in eco mode operation
- Low noise levels: the high frequency PWM for rectifier and inverter allows very low audible noise
- Flexibility: SR Series can be set for several configuration as normal mode, smart mode and stand by off
- Maximum reliability: SR Series can work in parallel up to 6 units. The UPS continues to operate in parallel even if one of the communication cables is disconnected
- Battery care system: SR Series is suitable for use with sealed VRLA, AGM, GEL or open-vented load acid batteries, Ni-Cd batteries
- Temperature voltage compensation
- Deep discharging controlled by microprocessor with load and main levels (sharing power mode suitable within -40% Vin)
- High power availability: the output factor 0,9 providing up to 15% more active power than a traditional UPS and more load expansion
- Low management cost: the transformer less technology allows the lowest footprint in this category. The SR Series design allows front, top, and sides access

Cost Saving in Efficiency

SR Series is the first class in cost saving due to efficiency up to 96.5% providing a 50% saving in energy usage per annum compared to traditional UPS products (92% standard). This exceptional performance can lead to a full initial investment recovery within three years.



10~20KVA
1-ph/1-ph and 3-ph/1-ph



* for standard utility contract at 0,15 €/kWh that means 630 € saved per year.

10~40KVA
3-ph/3-ph

60~120KVA
3-ph/3-ph

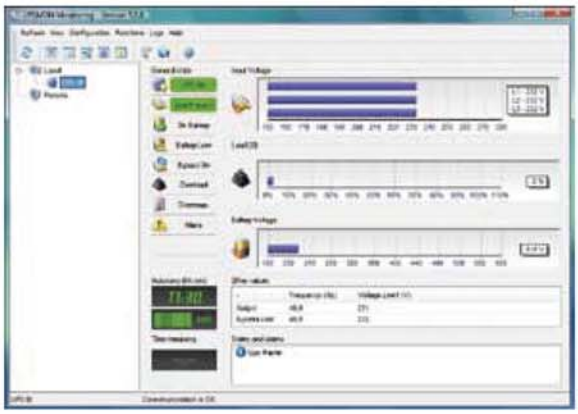
UPS Front Panel:

Menu

1. LED for mains operation
2. LED for battery operation
3. LED for load on bypass
4. LED for stand-by/alarm
5. LED for replacing batteries
6. LED for ECO mode
7. Graphical Display

F1, F2, F3, F4 = Function Keys.

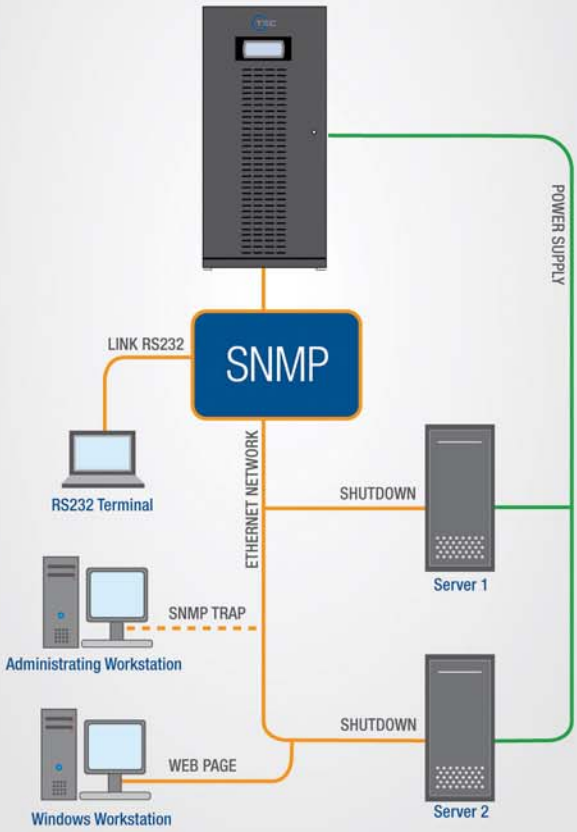
Messages are available in the following languages: English, Italian, French, German, Spanish, Polish, Turkish, Chinese and Russian



PowerShield³ provides user-friendly UPS management.
The software displays real time information in the form of bar charts and values for critical data such as mains voltage, UPS load and battery charge. It allows remote interrogation of UPS logs and operating parameters to help diagnose alarms and potential fault conditions.

When instructed the software performs an automated safe power down of the protected PCs and file severs.

Direct Connection with Ethernet Network



ADVANCED COMMUNICATION

- SR Series Plus is equipped with a graphic display that provides information, measures, states and alarms regarding the UPS in 9 different languages
- Advanced, multi-platform communication for all operating systems and network environments:
  PowerShield³ monitoring and shut-down software included, with SNMP agent, for Windows NT 4.0, Vista, XP; Mac OS 10.x, Linux, Novell Operating systems. The UPS is equipped with a cable for direct connection to the PC (Plug and Play)
- Can also provide shut-down software for:
  IBM AIX; Free BSD; BSDI Unix; BSD/OS; SCO Unixware; SCO Openserver; Sun Solaris; Compaq True64; HP Unix; HP OpenVMS; HP Openview; SGI Irix MIPS; NCR Unix
- RS232 or USB serial port
- 3 slots for the installation of optional communication accessories such as network adapters and volt-free contacts
- REPO (Remote Emergency Power Off) with which to power down the UPS through a remote emergency pushbutton
- Input for connection of the auxiliary contact of an external manual bypass
- Input for synchronisation from an external source
- Graphic mimic panel display for remote connection

The SNMP network agent allows UPS management across a LAN using any of the main network communication protocols - TCP/IP, HTTP and network interface via SNMP

MicroMate®

Single Phase In / Single Phase Out
Three Phase In / Single Phase Out
Uninterruptible Power Supplies

Technical Specifications

SR Series				
Single/Single phase Model	**SR10K-11**	**SR12K-11**	**SR15K-11**	**SR20K-11**
Three/Single phase Model	**SR10K-31**	**SR12K-31**	**SR15K-31**	**SR20K-31**
INPUT				
Rated voltage	380-400-415 Vac three-phase with Neutral / 220-230-240 single-phase			
Voltage tolerance	240V - 480V (3 Phase) / 140V - 276V (1 Phase)			
Rated frequency	50/60 Hz			
Frequency tolerance	40 ÷ 72 Hz			
Power factor at full load	0.99			
Current distortion	THDi ≤ 3%			
BY PASS				
Rated voltage	220-230-240 Vac			
Number of phases	1 phase			
Voltage tolerance	180 ÷ 264 V (selectable)			
Rated frequency	50/60 Hz (selectable)			
Frequency tolerance	± 5% (selectable)			
OUTPUT				
Rated power (kVA)	10	12	15	20
Active power (kW)	8	9.6	12	16
Output power factor	0.8			
Number of phases	1 phase			
Rated voltage (V)	220-230-240 Vac (selectable)			
Static variation	± 1%			
Dynamic variation	± 3%, EN62040-3 class performance 1 distorting load			
Crest factor (Ipeak/Irms)	3: 1			
Voltage distortion (EN62040-3)	≤ 1% with linear load / ≤ 3% with non-linear load			
Frequency	50/60 Hz			
Frequency stability on battery mode	± 0.01%			
Overload at pF 0.8	110% for 10 minutes, 133% for 1 minute, 150% for 5 seconds			
BATTERIES				
Type	VRLA AGM/GEL; Ni-Cd; WET TYPE			
Recharge time	6 h			
ENVIROMENTAL				
Weight without internal batteries (Kg)	105	110	115	120
Dimensions (LxDxH) (mm)	440 x 850 x 1320			
Communication	DOUBLE RS232/C - SNMP Agent - MODBUS - PROFIBUS			
Operating temperature	0°C / +40°C			
Relative humidity	90% non condensing			
Colour	Dark Grey RAL 7016			
Noise (dBA @ 1m)	≤ 48		≤ 52	
Protection rating	IP20			
Efficiency Smart Mode	≥ 98% in Economy mode			
Compliance	European Directives: L V 2006/95/CE Low voltage directive EMC 2004/108/EC Electromagnetic compatibility directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2 Classification according to IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111			

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Three Phase In / Three Phase Out
Uninterruptible Power Supplies

Technical Specifications

SR Series					
Models	**SR10K-33**	**SR15K-33**	**SR20K-33**	**SR30K-33**	**SR40K-33**
INPUT					
Rated voltage	380-400-415 Vac three-phase with Neutral				
Voltage tolerance	240V - 480V (3 Phase)				
Rated frequency	50/60 Hz				
Frequency tolerance	40 ÷ 72 Hz				
Power factor at full load	0.99				
Current distortion	THDi ≤ 3%				
BY PASS					
Rated voltage	380-400-415 Vac three-phase with Neutral				
Number of phases	3 phase + N				
Voltage tolerance	180 ÷ 264 V (selectable)				
Rated frequency	50/60 Hz (selectable)				
Frequency tolerance	± 5% (selectable)				
Frequency stability on battery mode	± 0.01%				
Overload at pF 0.8	115% infinite; 125% for 10 mins; 150% for 60 secs; 168% for 5sec				
OUTPUT					
Rated power (kVA)	10	15	20	30	40
Active power (kW)	8 / 9	12 / 13.5	16 / 18	24 / 27	32 / 36
Output power factor	0.8 / 0.9 (selectable)				
Number of phases	3 phase + N				
Rated voltage (V)	380-400-415 Vac (selectable)				
Static variation	± 1%				
Dynamic variation	± 3%, EN62040-3 class performance 1 distorting load				
Crest factor (Ipeak/Irms)	3: 1				
BATTERIES					
Type	VRLA AGM/GEL; Ni-Cd; WET TYPE				
Recharge time	6 h				
ENVIRONMENTAL					
Weight without internal batteries (Kg)	105	115	120	155	160
Dimensions (LxDxH) (mm)	420 x 650 x 1260			480 x 710 x 1750	
Communication	DOUBLE RS232/C - SNMP Agent - MODBUS - PROFIBUS				
Operating temperature	0°C / + 40°C				
Relative humidity	90% non condensing				
Colour	Dark Grey RAL 7016				
Noise	< 48 dBA at 1 m				< 52 dBA at 1 m
Protection rating	IP20				
Efficiency Smart Mode	up to 99%				
Compliance	European Directives: L V 2006/95/CE Low voltage directive EMC 2004/108/EC Electromagnetic compatibility directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2 Classification according to IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111				

NOTE: UPS specification and data may be subjected to change for improvement without prior notice

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Three Phase In / Three Phase Out
Uninterruptible Power Supplies

Technical Specifications

SR Series				
Models	**SR60K-33**	**SR80K-33**	**SR100K-33**	**SR120K-33**
INPUT				
Rated voltage	380-400-415 Vac three-phase with Neutral			
Voltage tolerance	240V - 480V (3 Phase)			
Rated frequency	50/60 Hz			
Frequency tolerance	40 ÷ 72 Hz			
Power factor at full load	≥ 0.95		0.99	
Current distortion	THDi ≤ 3%			
BY PASS				
Rated voltage	380-400-415 Vac three-phase with Neutral			
Number of phases	3 phase + N			
Voltage tolerance	180 ÷ 264 V (selectable)			
Rated frequency	50/60 Hz (selectable)			
Frequency tolerance	± 5% (selectable)			
Frequency stability on battery mode	± 0.01%			
Overload at pF 0.8	115% infinite; 125% for 10 mins; 150% for 60 secs; 168% for 5sec			
OUTPUT				
Rated power (kVA)	60	80	100	120
Active power (kW)	48 / 54	64 / 72	90	108
Output power factor	0.8 / 0.9 (selectable)		0.9	
Number of phases	3 phase + N			
Rated voltage (V)	380-400-415 Vac (selectable)			
Static variation	± 1%		± 0.5%	
Dynamic variation	± 3%, EN62040-3 class performance 1 distorting load			
Crest factor (Ipeak/Irms)	3: 1			
BATTERIES				
Type	VRLA AGM/GEL; Ni-Cd; WET TYPE			
Recharge time	6 h			
ENVIRONMENTAL				
Weight without internal batteries (Kg)	200	220	370	380
Dimensions (LxDxH) (mm)	500 x 740 x 1400		750 x 855 x 1900	
Communication	DOUBLE RS232/C - SNMP Agent - MODBUS - PROFIBUS			
Operating temperature	0°C / + 40°C			
Relative humidity	90% non condensing			
Colour	Dark Grey RAL 7016			
Noise	< 56 dBA at 1 m		< 65 dBA at 1 m	
Protection rating	IP20			
Efficiency Smart Mode	up to 99%			
Compliance	European Directives: L V 2006/95/CE Low voltage directive EMC 2004/108/EC Electromagnetic compatibility directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2 Classification according to IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111			

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