

Working in Power

SR10-120 series

on-line UPS

10 – 20 kVA single/single phase and three/single-phase
10 – 40 kVA and 100 – 120 kVA three/three-phase

- LOCAL AREA NETWORKS (LAN)
- SERVERS
- DATA CENTERS

- CASH REGISTERS
- TELECOMMUNICATION DEVICES
- E-BUSINESS (SERVERS FARMS, ISP/ASP/POP)

- INDUSTRIAL PLCS
- ELECTRO-MEDICAL DEVICES
- EMERGENCY DEVICES (LIGHTS/ALARMS)

SR10-120 series

SR10-120 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.

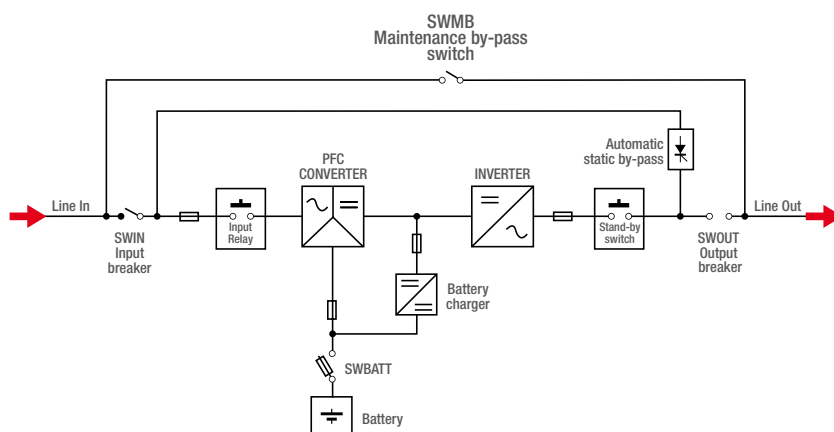
The SR10-120 series is available in 10-12-15-20 kVA three-phase and single-phase input and single-phase output models, and 10-12-15-20-30-40 and 100-120 kVA three-phase input and output models, with double conversion on-line technology according to the VFI-SS-111 classification, as defined by the IEC EN 62040-3 standard.

SR10-120 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 SR10-120 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. SR10-120 is designed to have a zero-impact on its upstream power supply (mains or generator).



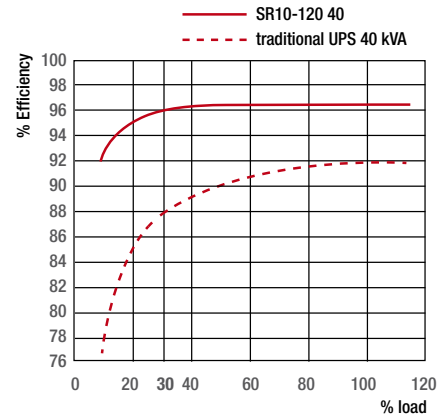
Main Features:

- 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: SR10-120 can be set for several configuration as normal mode, smart mode and stand by off
- Maximum reliability: SR10-120 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: SR10-120 is suitable for use with sealed VRLA, AGM, GEL or open-vented lead acid batteries, Ni-Cd batteries
- Temperature voltage compensation
- Deep discharging controlled by microprocessor with load and main levels (sharing power mode suitable within -40% V_{in})
- 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 SR10-120 design allows front, top, and sides access

SR10-120 series

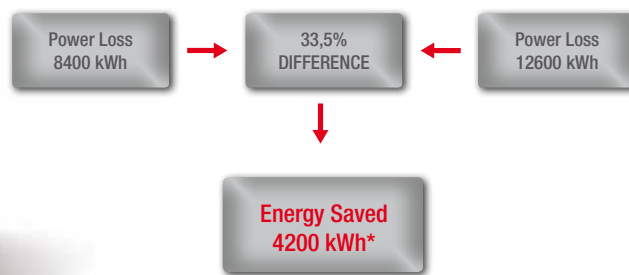
Cost Saving in Efficiency

SR10-120 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.

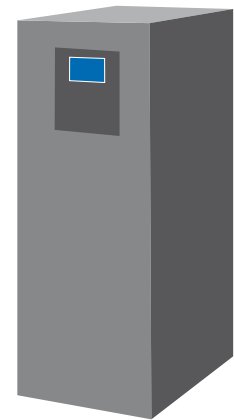


SR10-120 40 kVA

Efficiency at 75% rated load 96%



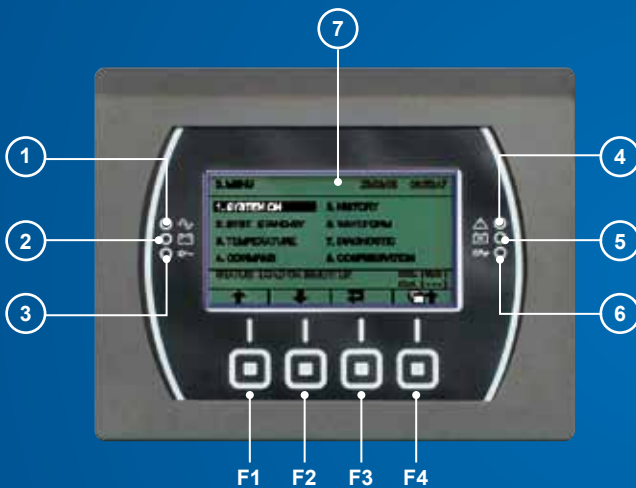
* for standard utility contract at 0,15 €/kWh that means 630 € saved per year.



STANDARD UPS 40 kVA

Efficiency at 75% rated load 88%

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

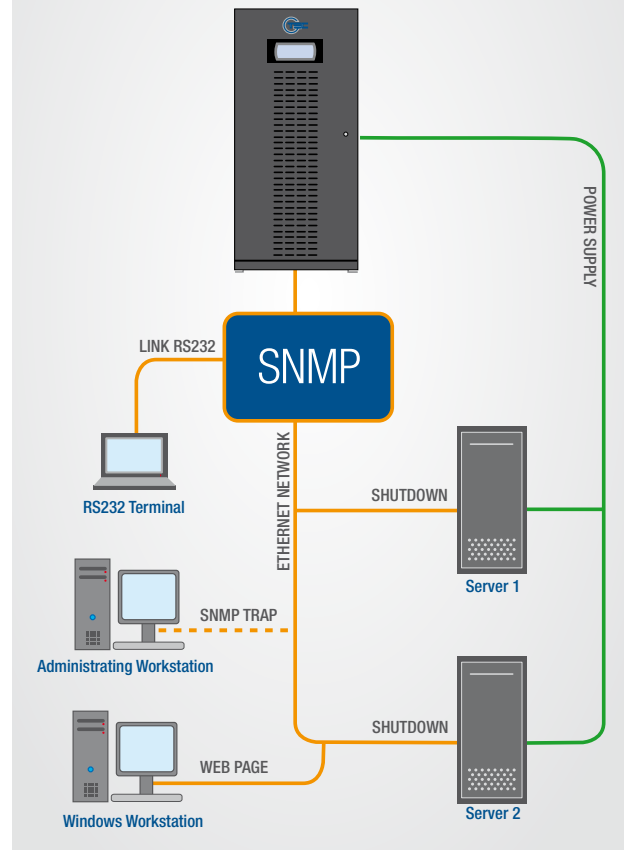


PowerShield³ provides user-friendly UPS management.

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 servers.

Direct Connection with Ethernet Network



ADVANCED COMMUNICATION

- SR10-120 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

TECHNICAL **ASSISTANCE** SERVICE

UPService, our technical assistance facility uses highly trained engineers to provide a reliable and competent technical support and after-sales service.

UPService can provide customers with:

- **A dedicated CALL CENTRE** for connection to the UPService organisation. UPService personnel are always available and ready to provide advice and assistance regarding UPS installation, maintenance, fault finding and repair.
- **FAST & READY** A fast repair on site is guaranteed through the use of state-of-the-art UPS technology and the professionalism of the UPService personnel and Authorised Assistance Centres. UPService guarantees that failed parts are replaced with original ones, tested and updated in order to maintain the safety, reliability and operating characteristics of the UPS.
- **COMMISSIONING AND START-UP** UPService can provide assistance during commissioning and startup of the UPS equipment on-site with additional training during handover to site personnel. UPService engineers can also verify site suitability, analyse and advise on potential problems, and disconnect and relocate equipment. UPService recommend that all hardwired installations are commissioned by UPService engineers.
- **MAINTENANCE CONTRACTS** can be provided by UPService to minimise response times and repair costs. Contracts range from periodic inspections to comprehensive cover including labour and materials.
- UPService organises regular **TECHNICAL TRAINING COURSES** for UPS operators and installers.



TECHNICAL **ASSISTANCE** SERVICE

SR10-120series

Technical Specification				
Three/Single phase Model	SR10M	SR12M	SR15M	SR20M
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 (I _{peak} /I _{rms})	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			
ENVIRONMENTAL				
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			

SR10-120series

Technical Specification								
Models	SR10T	SR12T	SR15T	SR20T	SR30T	SR40T	SR100T	SR120T
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%						THDi ≤ 4%	
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	12	15	20	30	40	100	120
Active power (kW)	9	10.8	13.5	18	27	36	90	108
Output power factor	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 (I _{peak} /I _{rms})	3: 1							
BATTERIES								
Type	VRLA AGM/GEL; Ni-Cd; WET TYPE							
Recharge time	6 h							
ENVIRONMENTAL								
Weight without internal batteries (Kg)	105	110	115	120	135	145	370	380
Dimensions (LxDxH) (mm)	440 x 850 x 1320						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	< 48 dBA at 1 m				< 52 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							