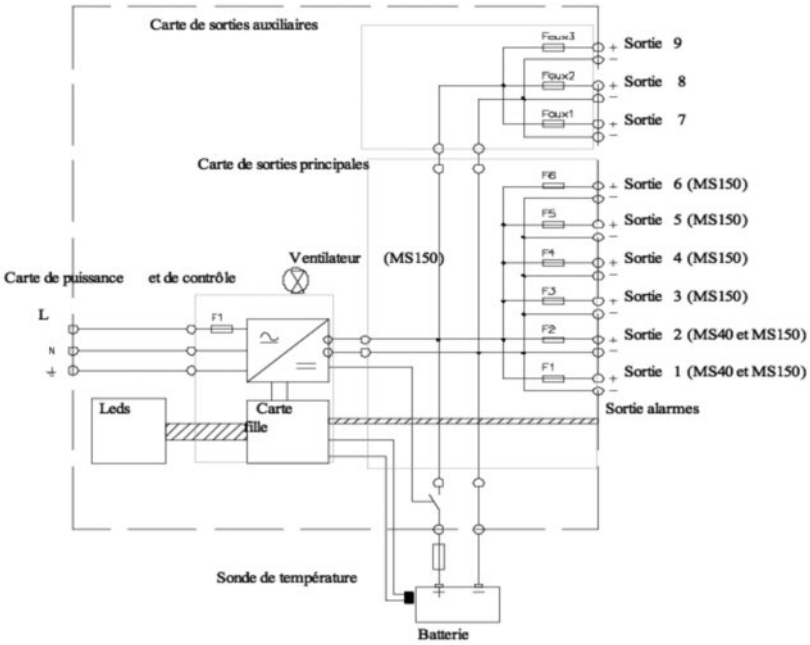
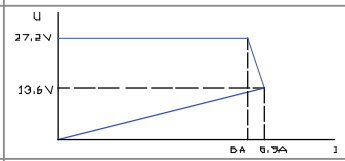
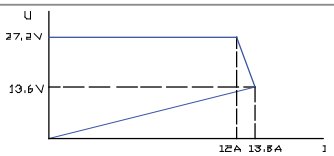
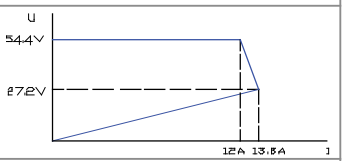
SONAGES RACK 2U

	SON 24V 6A MS40 RACK	SON 24V 12A MS150 RACK	SON 48V 12A MS150 RACK
			
Maximum power for all outputs	960W	3600W	7200W
Number of amplifier outputs	2	6	6
Maximum power per amplifier outputs	480W	960W	1920W
Number of controller outputs	3	3	3
Maximum power per controller outputs	120W	120W	240W
> Mains			
Mains voltage	230V+/-15% (195 à 264V)		
Frequency	47 à 63Hz		
Power at full load	190W	380W	760W
Efficiency at full load	84%	87%	91%
Efficiency at 20% of load	74%	82%	86%
Neutral and earthing systems	TT, TN, IT		
Class	class I		
> Output			
Floating voltage set at half load and 25°C	27.2V	27.2V	54.4V
Nominal output rectifier current	6A	12A	12A
Current limitation - short circuit current:			
Peak to peak HF residual voltage (20MHz-50Ω)	< 4% of floating voltage		
RMS LF residual voltage	< 0.2% of floating voltage		
Static and dynamic regulation characteristic	< 5% of floating for mains voltage and output load (from 10 to 90%)		

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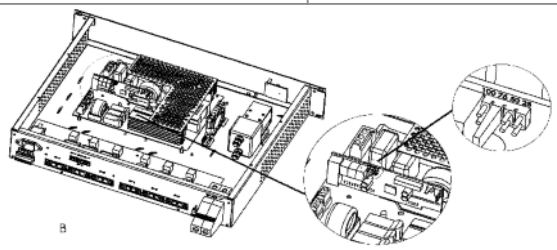
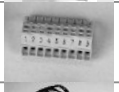
	SON 24V 6A MS40 RACK	SON 24V 12A MS150 RACK	SON 48V 12A MS150 RACK
> Battery			
Minimum battery capacity	24Ah	65Ah if jumper is on '50' position 86Ah if jumper is on '75' position	
Maximum battery capacity	110Ah	225Ah	
Low battery voltage protection	When the mains isn't present, a relay disconnects battery from main outputs and auxiliary outputs to protect it against deep discharge when the battery voltage reaches low voltage disconnection threshold. The charger is switched on and the relay is reconnected when mains is back and the load is < rectifier current. In case of discharger (total current on outputs >rectifier current) with mains present, the relay disconnects battery from main outputs and auxiliary outputs when the battery voltage reaches low voltage disconnection threshold . When the load is <rectifier current, the charger is switched on and the relay is automatically reconnected. After disconnection, the battery current is nearly 0.		
	Low voltage disconnection threshold: 21.6V+/-3%		Low voltage disconnection threshold: 43.2V+/-3%
Internal impedance threshold of the battery fault	50mΩ +/-10%	- 20mΩ +/-10% if jumper in '50' position - 13mΩ +/-10% if jumper in '75' position	- 40mΩ +/-10% if jumper is on '50' position - 26mΩ +/-10% if jumper is on "75' position
Maximum power for all outputs drawn from the battery	960W	- 2400W if jumper is on '50' position - 3600W if jumper is on '75' position	- 4800W if jumper is on '50' position - 7200W if jumper is on '75' position
			
Battery temperature compensation	The output battery voltage is compensated by the battery temperature (sensor placed as close as possible). If the sensor is broken or disconnected or has short circuit, the battery voltage isn't compensated		
Own rectifier consumption	140mA	430mA	290mA
> Connection			
Mains	2.5mm² plug-in (IEC320) and lockable 		
Main outputs	16mm² plug-in and lockable 		
Auxiliary outputs	2.5mm² plug-in 		
Battery output	 16 mm² plug-in and lockable	50 mm² 	
Alarm outputs	1.5mm² plug-in 		
Temperature sensor	1.5mm² plug-in 		
> Protections			
Against unintentional battery reverse	- **At start-up**: the battery is not connected - **During functioning**: the fuse F8 (5 x 20, rated:6.3A, type T) on the power and control board blown	- **At start-up** the battery is not connected - **During functioning**: the fuse F8 (5 x 20, rated:12.5A, type T) on the power and control board blown	

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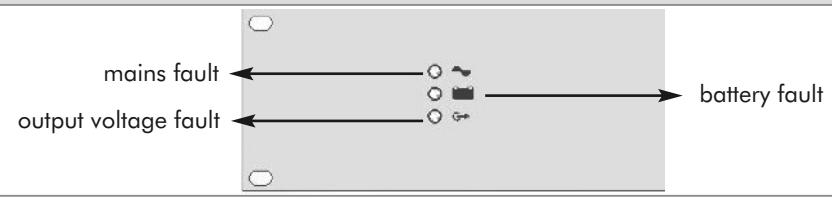
> Protections			
Against battery wiring error	- **If battery voltage** > 30V+/-3%, the battery is not connected - **If battery voltage** < 14V+/-3%, the battery is not connected		- **If battery voltage** > 60V+/-3%, the battery is not connected batterie - **If battery voltage** < 40V+/-3%, the battery is not connected
Against output over-voltage	- **Regulation problem**: by power supply switch off and cyclic restart on. The threshold is 28.8V+/-3% - **External**: by transient voltage suppressor		- **Regulation problem**: by power supply switch off and cyclic restart on. The threshold is 57.6V+/-3% - **External**: by transient voltage suppressor
Against output over current and short circuit by fuse on each outputs	- **main outputs**: • dimensions: 10.3 x 38 • rating: 20A • type: gG - **auxiliary outputs**: • dimensions: 5 x 20 • rating: 5A • type: F	- **main outputs**: • dimensions: 10.3 x 38 • rating: 32A • type: gG - **Auxiliary outputs**: • dimensions: 5 x 20 • rating: 5A • type: F	
Against internal short-circuit by primary fuse	• dimensions: 5 x 20 • rate: 2A • type: T • breaking capacity: 1500A	• dimensions: 5 x 20 • rate: 6.3A • type: T • breaking capacity: 1500A	• dimensions: 5 x 20 • rate: 8A • type: T • breaking capacity: 1500A
Against primary over voltage	275V		
Against internal high temperature (65°C)	no	yes	yes
> Fonctionnal characteristics			
Alarms and signalisations			
Mains	**Led indication:** 1- Green: Ok 2- Yellow: Mains fault active		
	Fault if : - mains voltage threshold <185V+/-5% as long as the charger was switched off, <165V+/-5% when the charger was switched on - no primary fuse or fuse blown - power supply is broken - internal temperature is too high		
Batterie	**Led indication:** 1- Green: Ok 2- Yellow: Battery fault active		
	Fault if : - no battery - high impedance on battery and its associated circuit - battery voltage < 23.5V+/-3% mains present		- no battery - high impedance on battery and its associated circuit - battery voltage < 47V+/-3% mains present
	Internal impedance threshold: - 50mΩ +/-10%	- 20mΩ +/-10% if jumper on '50' position - 13mΩ +/-10% if jumper on '75' position	- 40mΩ +/-10% if jumper on '50' position - 26mΩ +/-10% if jumper on '75' position

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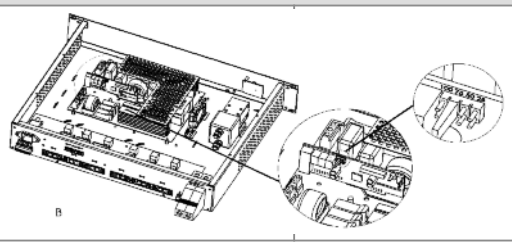
> Fonctionnal characteristics			
Battery			
	Battery fault monitoring - Detection of the presence/absence of the battery : 1 test every 30s during the first 20 min and every 15min after (in normal operation). As soon as a fault detection, the test is every 30s until no fault. - Measurement of the impedance of the battery and its associated circuit: 1 test every 4 hours the mains is present on the power supply and if the power supply has a current < rectifier current		
Output	**Led indication:** 1- Green: Ok 2- Yellow: Output voltage fault active **Fault** when one of the auxiliary or main outputs fails		
Alarm reports	Each alarm can be transmitted by dry contacts free of potential (C-NO-NC) allowing 1A @ 24Vdc, 0.5A @ 120Vac		
> Mechanical characteristics			
Dimensions	The housing is a 19'', 2U rack with connections on the back side. The deepth without connectors is 344mm, and 399 with connectors.		
Weight	3.1kg	5.4kg	5.9kg
IP (front side)	IP30		
> Spécifications environnementales			
Température	**Storage**: -25 à +85°C **Operating** : -5 to +45°C		
	Natural cooling	Forced cooling	
Hygrometry	**Storage:** relative humidity from 10 to 95%, **Operating:** relative humidity from 20 to 95% with no condensation.		
Altitude	Over 2000m, the max operating temperature decreases of 5°C every 1000m		
Lifetime	200000h with external ambient temperature of 25°C, nominal mains voltage, 48h full charging per year and for the rest of the time: 25% of load.		
> EN 5 safety EMC			
Specific standards	- **EN 54-4** *(décember 1997)* / A2 *(february 2006)* : Fire detection and fire alarm systems. Part 4: power supply equipment - **NF EN 12101-10** *(january 2006)* : Smoke Part 10 power supply equipment. A-class.		
Security	- **EN 60950-1** *(september 2006)*: Information technology equipment - Safety Part 1: General requirements		
EMC – Immunity	- **EN 50130-4** *(april 1996)* + A1 (august 1998) + A2 *(april 2003)* : Immunity requirements for fire, intruder and social alarm systems - **EN 61000-6-1** *(march 2007)*: Generic standards - Immunity for residential, commercial and light-industrial environments - **EN 61000-6-2** *(january 2006)*: Generic standards - Immunity for industrial environments		
EMC - Emission	- **EN 61000-3-2** *(august 2006)* (class A): limtes for harmonic current emissions (equipment input current < 16A per phase) - **NF EN 61000-6-3** *(mars 2007)*: Generic standards - Emission standard for residential, commercial and light-industrial environments - **EN 61000-6-4** *(march 2007)*: Generic standards - Emission standard for industrial environments. - **EN 55022** *(march 2007)* + A1 *(may 2008)* (level: class B): Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement		
n° CE DPC	0333-CPD-075382	0333-CPD-075381	0333-CPD-075383