	SON 24V 6A MS40 RACK	SON 24V 12A MS150 RACK	SON 48V 12A MS150 RACK		
	Carte de sorties auxiliaires Carte de sorties principales Carte de sorties principales Carte de sorties principales Carte de contrôle Carte de contrôle Ca				
	+ 0		ϕ^+ Sortie 1 (MS40 et MS150)		
	Leds	Carte	Sortie alarmes		
		Sonde de température			
		Batterie			
for all outputs	960W	3600W	7200W		
Number of amplifier	2	6	6		
outputs			-		
per amplifier outputs	480W	960W	1920W		
Number of controller outputs	3	3	3		
Maximum power	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 l				
> 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:	13.6	13.6 V	£72V		
	54 5.7A 1	1ZA 13.8A 1	1ZA 13.8A 1		
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%)				



1

SON 24V 6A MS40 RACK SON 24V 12A MS150 RACK SON 48V 12A MS150 RACK > Battery 65Ah if jumper is on '50' position Minimum battery capacity 24Ah 86Ah if jumper is on '75' position 110Ah 225Ah Maximum battery capacity 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 Low battery load is < rectifier current. voltage protection 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 Low voltage disconnection threshold: 21.6V+/-3% threshold: 43.2V+/-3% - 20mΩ +/-10% - 40mΩ +/-10% if jumper is on '50' position Internal impedance threshold if jumper in '50' position $50m\Omega + / -10\%$ of the battery fault - 13mΩ +/-10% $26m\dot{\Omega} + /-10\%$ if jumper is on "75' position if jumper in '75' position - 2400W - 4800W if jumper is on '50' position if jumper is on '50' position Maximum power for all 960W outputs drawn from the battery - 3600W 7200W if jumper is on '75' position if jumper is on '75' position The output battery voltage is compensated by the battery temperature (sensor placed Battery temperature as close as possible). compensation If the sensor is broken or disconnected or has short circuit, the battery voltage isn't compensated Own rectifier consumption 140mA 430mA 290mA > Connection 2.5mm² plug-in (IEC320) and lockable Mains Main outputs 16mm² plug-in and lockable Auxiliary outputs 2.5mm² plug-in 16 mm² plug-in Battery output 50 mm² and lockable Alarm outputs 1.5mm² plug-in Temperature sensor 1.5mm² plug-in > Protections - At start-up - At start-up: the battery is not connected the battery is not connected - During functioning: - During functioning: Against unintentional the fuse F8 $(5 \times 20,$ the fuse F8 (5 x 20, rated:12.5A, type T) battery reverse on the power and control board blown rated:6.3A, type T) on the power and control board blown

	SON 24V 6A MS40 RACK	SON 24V 12A MS150 RACK	SON 48V 12A MS150 RACK	
> 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 out • dimensi • rating: 3 • type: gC - Auxiliary • dimensi • rating: 5 • type: F	puts: ons: 10.3 x 38 32A 3 outputs: ons: 5 x 20 5A	
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 fault output voltage fault	O ~	→ battery fault	
	Led indication: 1- Green: Ok 2- Yellow: Mains fault active			
Mains	Fault if : - mains voltage threshold <185V+/-5% as long as the charger was switched of <165V+/-5% when the charger was switched on - no primary fuse or fuse blown - power supply is broken - internal temperature is too high			
	Led indication: 1- Green: Ok 2- Yellow: Battery fault active			
Batterie	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%	- $20m\Omega$ +/-10% if jumper on '50' position - $13m\Omega$ +/-10% if jumper on '75' position	- $40m\Omega$ +/-10% if jumper on '50' position - $26m\Omega$ +/-10% if jumper on '75' position	

SON 24V 6A MS40 RACK SON 24V 12A MS150 RACK SON 48V 12A MS150 RACK

> Fonctionnal characteristics			1		
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 c The deepth witho	19", 2U rack with connections out connectors is 344mm, and 39	on the back side. 9 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	coperating temperature decrease	es 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		

SONAES RACK 2U - SEPTEMBRE A - 2012 - EN