



RSW1500 RAILWAY SINEWAVE INVERTER

SERIES RSW1500

The RSW1500 consists of sine-wave 120Vac or 230Vac output voltage DC/AC converters. The frequency can be set to 50Hz or 60Hz, and input and output are galvanically isolated.

The RSW1500 inverters consist of two cascaded converters, one DC/DC generating an intermediate output voltage from the input voltage. That intermediate voltage is inverted to supply the output voltage and frequency by means of a second DC/AC converter.

The topology for the first converter is a fixed frequency push-pull type that provides the isolation between input and output. The second converter consists of a bridge inverter also at fixed frequency and fully PWM controlled by means of microcontroller that is equipped with an LC output filter that removes the switching frequency components and delivers a sine-wave output.

The RSW1500 are equipped with a maximum average power protection as well as maximum output peak current protection. This protects the unit even when an output short-circuit occurs.

It also features a disable function for input undervoltage, which protects the batteries from harmful discharges.



Pure
Sinewave



High
frequency
technology



Light weight,
compact size



Full electronic
protection



Extended
temperature
range



Remote inhibit
(Standby)



Output fail
alarm
(Form B)

APPLICATIONS

- Railway Applications
- Industrial Controls
- Telecom Power Plants
- Marine & other rugged environments
- Electric Utilities and Substations
- Base Station Power

FEATURES

- Sine wave output voltage
- Selectable output frequency: 50/60Hz
- Adjustable output voltage
- High input-output isolation 3000Vrms
- Remote inhibit
- Remote control via RS232
- Designed for rolling applications according to EN50155
- Fire and smoke EN45545-2 approved
- Protection against overloads and short-circuits
- Protection against input undervoltage
- Output fail alarm by isolated relay contacts (Form B)

SPECIFICATIONS

Model	Input voltage nominal	Input voltage range	Output voltage	Output power	Output current	Output peak current		Efficiency	No load input current
						5s	10ms (lopk)		
RSW1500-12-230	12Vdc*	10 ... 15V	230Vac	1200W	5.2A	6.8A	16A	87%	<0,8A
RSW1500-24-230	24Vdc	16.8 ... 30V	230Vac	1500W	6.5A	10A	16A	88%	<0,4A
RSW1500-36-230	36Vdc	25.2 ... 45V	230Vac	1500W	6.5A	10A	16A	89%	<0,3A
RSW1500-48-230	48Vdc	33.6 ... 60V	230Vac	1500W	6.5A	10A	16A	90%	<0,2A
RSW1500-72-230	72Vdc	50.4 ... 90V	230Vac	1500W	6.5A	10A	16A	90%	<0.15A
RSW1500-110-230	110Vdc	77 ... 138V	230Vac	1500W	6.5A	10A	16A	91%	<0.1A
RSW1500-12-120	12Vdc*	10 ... 15V	120Vac	1200W	10A	13A	30A	86%	<0.8A
RSW1500-24-120	24Vdc	16.8 ... 30V	120Vac	1500W	12.5A	20A	30A	88%	<0.4A
RSW1500-36-120	36Vdc	25.2 ... 45V	120Vac	1500W	12.5A	20A	30A	88%	<0.3A
RSW1500-48-120	48Vdc	33.6 ... 60V	120Vac	1500W	12.5A	20A	30A	89%	<0.2A
RSW1500-72-120	72Vdc	50.4 ... 90V	120Vac	1500W	12.5A	20A	30A	89%	<0.15A
RSW1500-110-120	110Vdc	77 ... 138V	120Vac	1500W	12.5A	20A	30A	90%	<0.1A

Input	
Input voltage range	-30, +25% Vin nom, (10 ... 15Vdc)*
Maximum input ripple	5% Vin nom (Vrms, 100Hz)
Output	
Output voltage	120 / 230Vac sinusoidal
Output frequency	50 / 60Hz ± 0.25Hz
Load regulation	< 4%
Line regulation	< 2% Vin -25% ... +25% < 10% Vin -30% ... +30%
Output wave distortion THD	< 2% (average of 16 samples)
Output HF ripple	< 2.5%
Environmental	
Storage temperature	-25 ... 80°C
Operating temperature full load	-25 ... 55°C (EN50155 T1)
Operating temperature 50% load	-25 ... 70°C (EN50155 T3)
Relative humidity without condensation	5 ... 95%
Cooling	Controlled internal fan
MTBF (MIL-HDBK-217-E; G _b , 25°C)	130.000 h
EMC	
Immunity according	EN61000-6-2 (EN50121-3-2)
Emissions according	EN61000-6-4 (EN50121-3-2)

Safety	
Dielectric strength: Input / output	3000 Vrms / 50Hz / 1min
Dielectric strength: Output / ground	1500 Vrms / 50Hz / 1min
Dielectric strength: Input / ground	500 Vrms / 50Hz / 1min
Safety according to	EN60950-1
Fire and smoke	EN45545-2 aproved
Mechanical	
Dimension	160 x 351 x 64.5mm
Weight	3800 g
Connections	Input: M6 Screws Output: terminal block cable or solid wire max. 6mm ² or AWG10
Protections	
Against overloads	Current and I ² T limited
Against overtemperature	Shutdown with auto-recovery
Control	
Output OK LED	Green
Alarm LED	Red
Output failure alarm	Isolated contact relay open when alarm (< 0.3A at 150Vcc)
Remote inhibit input	OFF: applying 4...24 Vdc, Impedance >3k3Ω
Status and programming	RS232 port

