RIPEENERGY
The Power Conversion Company

RSW3000 RAILWAY SINEWAVE INVERTER

SERIES RSW3000

The RSW3000 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 RSW3000 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 RSW3000 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

HF
High frequency technology

Light weight, compact size

Full electronic protection

Extended temperature range

RC
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)		
RSW3000-24-230	24Vdc	16.8 ... 30V	230Vac	2400W	10.4A	15A	32A	89%	<0,7A
RSW3000-36-230	36Vdc	25.2 ... 45V	230Vac	3000W	13.0A	20A	32A	90%	<0,5A
RSW3000-48-230	48Vdc	33.6 ... 60V	230Vac	3000W	13.0A	20A	32A	91%	<0,4A
RSW3000-72-230	72Vdc	50.4 ... 90V	230Vac	3000W	13.0A	20A	32A	91%	<0.3A
RSW3000-110-230	110Vdc	77 ... 138V	230Vac	3000W	13.0A	20A	32A	92%	<0.2A
RSW3000-24-120	24Vdc	16.8 ... 30V	120Vac	2400W	20.0A	28A	52A	88%	<0,7A
RSW3000-36-120	36Vdc	25.2 ... 45V	120Vac	2500W	20.8A	32A	52A	89%	<0,5A
RSW3000-48-120	48Vdc	33.6 ... 60V	120Vac	2500W	20.8A	32A	52A	89%	<0,4A
RSW3000-72-120	72Vdc	50.4 ... 90V	120Vac	2500W	20.8A	32A	52A	90%	<0.3A
RSW3000-110-120	110Vdc	77 ... 138V	120Vac	2500W	20.8A	32A	52A	91%	<0.2A

Input	
Input voltage range	-30, +25% Vin nom
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)	100.000 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	395 x 194 x 78.5 mm
Weight	<6000 g
Connections	Input: M6 Screws Output: terminal block cable or solid wire max. 6mm² or AWG10
Protections	
Against overloads	Current and I^2T 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

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Specifications Subject to Change Without Notice

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