

RSW 750 Railway Sinewave Inverter

RoHS Compliant
Directive 2002/95/EC



Pure sinewave



High frequency technology



Light weight, compact size



Full electronic protection



Extended temperature range



Designed for rolling applications according to EN50155



Remote inhibit (Standby)



Input & Output fail alarm (Form B)



3-Phase synchronization

Applications

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

Sinewave Inverter

Series RSW750

Description

The RSW750 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 RSW750 inverters consist of two cascaded converters, one DCDC 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 RSW750 inverter is equipped with an input polarity protection by means fuse. It also features maximum average power protection as well as maximum output peak current protection. This protects the semiconductors even when an output short-circuit occurs.

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

Features

- Sine wave output voltage
- Selectable output frequency: 50/60Hz
- 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
- 3-Phase synchronization
- Fail alarm Alarm by isolated relay contacts

Specifications (Specifications Subject to Change Without Notice)

Model	Input V	Input V range range	Output V	Power	Efficiency	No load input current
RSW750-12-230	12Vdc	9.5 ... 15V	230Vac	450VA	85%	0,80A
RSW750-24-230	24Vdc	16.8 ... 30V	230Vac	750VA	86%	0,46A
RSW750-36-230	36Vdc	25.2 ... 45V	230Vac	750VA	87%	0,36A
RSW750-48-230	48Vdc	33.6 ... 60V	230Vac	750VA	88%	0,27A
RSW750-72-230	72Vdc	50.4 ... 90V	230Vac	750VA	88%	0,17A
RSW750-110-230	110Vdc	77 ... 138V	230Vac	750VA	89%	0,12A
RSW750-12-120	12Vdc	9.5 ... 15V	120Vac	450VA	84%	0,80A
RSW750-24-120	24Vdc	16.8 ... 30V	120Vac	750VA	86%	0,46A
RSW750-36-120	36Vdc	25.2 ... 45V	120Vac	750VA	87%	0,36A
RSW750-48-120	48Vdc	33.6 ... 60V	120Vac	750VA	87%	0,27A
RSW750-72-120	72Vdc	50.4 ... 90V	120Vac	750VA	87%	0,17A
RSW750-110-120	110Vdc	77 ... 138V	120Vac	750VA	88%	0,12A

INPUT	
Input voltage range	See table
Maximum input ripple	5% Vin nom (Vrms, 100Hz)
OUTPUT	
Output voltage	120 / 230Vac sinusoidal
Load regulation	4%
Line regulation	0.4% @ Δ Vin -20...+25%, 10% @ Δ Vin -30...+25% (1% @ Δ Vin -10...+25%, 10% @ Δ Vin -20...+25%) ⁽¹⁾
Output frequency	50 / 60Hz \pm 0.25Hz
Output wave distortion THD	< 2% (16 samples average)
Output voltage HF ripple	< 20Vpp
ENVIRONMENTAL	
Storage temperature	-40 ... 85°C
Operating temperature full load	-25 ... 55°C (-40 ... 55°C) ⁽³⁾
Operating temperature 50% load	-25 ... 70°C (-40 ... 70°C) ⁽³⁾
Cooling	Variable speed internal fan
MTBF (MIL-HDBK-217-E; G _b , 25°C)	160.000 h
EMC	
Immunity according to	EN61000-6-2 / EN50121-3-2
Emissions according to	EN61000-6-3 / EN50121-3-2
SAFETY	
Safety according to	EN60950
Dielectric strength: Input / output	3000 Vrms / 50Hz / 1min
Dielectric strength: Output / ground	1500 Vrms / 50Hz / 1min
Dielectric strength: Input / ground	500 Vrms / 50Hz / 1min
Fire and smoke	EN45545-2
MECHANICAL	
Weight	1950 g
Dimensions	130 x 270 x 50mm
Connections	Input: M5 Screws Output: terminal block cable max. 2.5mm ² , solid wire max. 4mm ²
PROTECTIONS	
Against input over-currents	Internal fuse for 36, 48, 72, and 110V input models
Against output overloads < 10A	Linear
Against output overloads > 10A	Triggered
Against over-temperature	Shutdown with automatic recovery
CONTROL	
Remote inhibit input	4 ... 24 Vdc
Three-phase input synchronization	100 ... 250 Vac
Input and output alarm	Isolated contact relay open when alarm (< 0.1A at 150Vcc)

Note (3): The unit can start up and work at an ambient temperature of -40°C with the following restriction: Do not actuate over the connectors below -25°C.

Available from:

RIPEnergy[®]

The power conversion company



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Version 1.06.17