



## RSW4500 3-PHASE RAILWAY SINEWAVE INVERTER

### SERIES RSW4500-3P

The RSW4500 3-Phase consists of three phase sine-wave DC-AC inverters with galvanic isolation between input and output.

Start-up motors by means of a soft start. In the start-up, the output voltage rises linearly from 0V to set voltage and the frequency from the initial to the set one. The start-up ramp slope may be changed via RS-232 port

Set the rotation speed of a motor according to the appropriate Voltage/Frequency ratio.

Changing the rotation direction of a motor by applying a control voltage.

Monitoring the status of the input and output voltage through the contacts of two separate solid state relays.

Set and monitor parameters via RS-232.

The RSW4500 3-Phase is equipped with a 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 under-voltage, which allows protecting the batteries from harmful discharges.



Pure Sinewave



3-Phase Output



High frequency technology



Light weight, compact size



Full electronic protection



Extended temperature range



Remote inhibit (Standby)



Input fail alarm (Form B)



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
- Suitable for motors control
- Adjustable output voltage
- Selectable output frequency: 50/60Hz
- High input-output isolation 3000Vrms
- Remote inhibit
- Reverse phase
- 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
- Input fail alarm by isolated relay contacts (Form B)
- Output fail alarm by isolated relay contacts (Form B)

# SPECIFICATIONS

Model	Input voltage		Max. input current		Output voltage		Output Power	Output current	Output peak current		Efficiency
	nominal	range	No load	Full load	nominal	range			Arms 10s	10ms (Iopk)	
RSW4500 3-P 72-400	72Vdc	50.4 ... 90V	0.67A	88.0A	400Vac	50...440V	4.0kW 4.5kVA	6.5A	9.5A	15A	92%
RSW4500 3-P 100-400	100Vdc	70 ... 125V	0.49A	62.0A	400Vac	50...440V	4.0kW 4.5kVA	6.5A	9.5A	15A	93%
RSW4500 3-P 110-400	110Vdc	77 ... 138V	0.44A	57.0A	400Vac	50...440V	4.0kW 4.5kVA	6.5A	9.5A	15A	93%

Input	
Input voltage range	-30, +25% Vin nom
Maximum input ripple	5% Vin nom (Vrms, 100Hz)
Output	
Output voltage	400 Vac sinusoidal
Output voltage range	50...440V (adjust via RS-232)
Output frequency	50 / 60Hz via DIP-switch, 5...75Hz via RS-232
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
Shock and Vibrations	According to EN61393:2011 Category 1 Class B
MTBF (MIL-HDBK-217-E; G <sub>0</sub> , 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, EN62368-1
Fire and smoke	EN45545-2
Mechanical	
Dimension	401 x 220 x 80.5 mm
Weight	7150 g
Connections	Input: M6 Screws Output: terminal block cable or solid wire max. 2.5mm <sup>2</sup>
Protections	
Against overloads	Current and I <sup>2</sup> T limited
Against overtemperature	Shutdown with auto-recovery
Control	
Input OK LED	Green
Output OK LED	Green
Input failure alarm	Isolated contact relay open when alarm (0.16A at 160Vdc)
Output failure alarm	Isolated contact relay open when alarm (0.16A at 160Vdc)
Remote inhibit	OFF: applying 15...143 Vdc, Impedance >35kΩ
Rotation inversion	Inversion: applying 15...143 Vdc, Impedance >35kΩ

