

# ISW 3000 Sinewave Inverter



## DESCRIPTION

The ISW3000 consists of sine-wave 120Vac or 230Vac output voltage DC-AC converters. The frequency can be set to 50Hz or 60 Hz, and input and output are galvanically isolated.

The ISW3000 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.

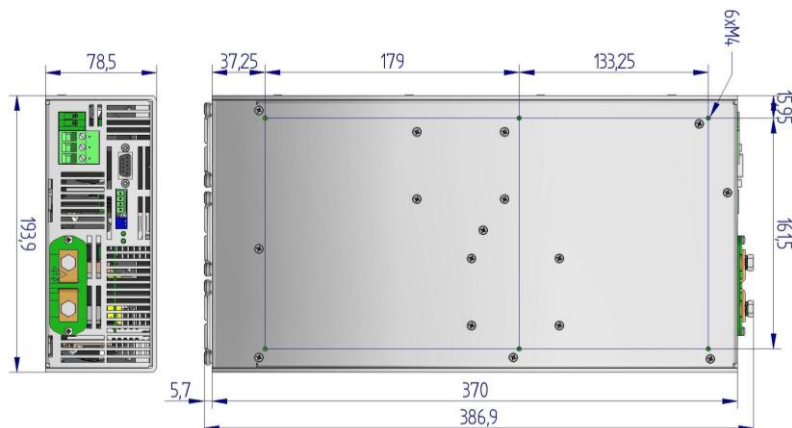
The ISW3000 inverter is equipped with an input polarity protection by means of an external fuse. It also features maximum average power protection as well as maximum output peak current protection. This protects the semiconductors even when an output short-circuit occurs. It also features a disable function for input undervoltage, which protects the batteries from harmful discharges.

## GENERAL FEATURES

- Sine wave output voltage
- Selectable output frequency: 50/60Hz
- Adjustable output voltage
- High input-output isolation 3000Vrms
- Remote inhibit
- Three-phase synchronization
- Remote control via RS232
- Alarm by isolated relay contacts
- Remote off opto-coupled
- Optional railway version EN50155

## PROTECTIONS

- Against overloads
- Against short-circuits
- Against input undervoltage



## STANDARD MODELS CHART

Model	Input	Output	Power	Output peak current		Efficiency	No load input current
				5s	10ms (lopk)		
ISW3000-24-230	24 Vdc	230 Vac	2400 VA	15A	32A	89 %	< 0.7 A
ISW3000-36-230	36 Vdc	230 Vac	3000 VA	20A	32A	90 %	< 0.5 A
ISW3000-48-230	48 Vdc	230 Vac	3000 VA	20A	32A	91 %	< 0.4 A
ISW3000-72-230	72 Vdc	230 Vac	3000 VA	20A	32A	91 %	< 0.3 A
ISW3000-110-230	110 Vdc	230 Vac	3000 VA	20A	32A	92 %	< 0.2 A
ISW3000-24-120	24 Vdc	120 Vac	2400 VA	28A	52A	88 %	< 0.7 A
ISW3000-36-120	36 Vdc	120 Vac	2500 VA	32A	52A	89 %	< 0.5 A
ISW3000-48-120	48 Vdc	120 Vac	2500 VA	32A	52A	89 %	< 0.4 A
ISW3000-72-120	72 Vdc	120 Vac	2500 VA	32A	52A	90 %	< 0.3 A
ISW3000-110-120	110 Vdc	120 Vac	2500 VA	32A	52A	91 %	< 0.2 A

## TECHNICAL SPECIFICATIONS

<b>INPUT</b>	
Input voltage range	-25, +25% Vin nom
Maximum input ripple	5% Vin nom (Vrms, 100Hz)
<b>OUTPUT</b>	
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%
<b>ENVIRONMENTAL</b>	
Storage temperature	-25 ... 80°C
Operating temperature:	
Full load	-25 ... 55°C (EN50155 T1)
50% load	-25 ... 70°C (EN50155 T3)
Relative humidity without condensation	5 ... 95%
Cooling	Controlled internal fan
MTBF (MIL-HDBK-217-E; G <sub>b</sub> , 25°C)	100.000 h
<b>EMC</b>	
Immunity according	EN61000-6-2 (EN50121-3-2)
Emissions according	EN61000-6-4 (EN50121-3-2)
<b>SAFETY</b>	
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
<b>MECHANICAL</b>	
Weight	<6000 g
<b>PROTECTIONS</b>	
Protection against overloads < 10ms	Current limited at lopk
Protection against overloads > 10ms	I <sup>2</sup> T limited by shutdown
<b>CONTROL</b>	
Output OK LED	Green
Alarm LED	Red
Remote OFF	4 ... 24 Vdc
Three-phase input synchronization	100 ... 250 Vac
Status and programming	RS232 port

Available from:



**RIPEnergy**  
The power conversion company



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