

DC to AC Inverters

Q'Sine 300, 600, PureSine 300, 600, & 1000

Run 120 or 220 Volt AC equipment from 12, 24, 32, 36, 48 or 72 VDC batteries in a boat, RV, motorhome, service vehicle, solar powered house, wind powered house, locomotive or other location where standard AC power is not available.

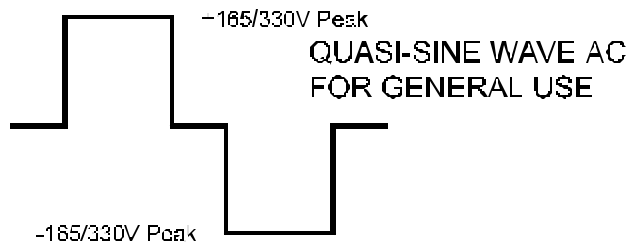
Analytic Systems produces two types of inverters converting DC to AC; a Q'Sine series and a PureSine series. They can provide high start-up power required in many applications such as tools, electronic equipment and appliances.

Q'Sine Series

Q'Sine 300, 600, (IQS300, IQS600 series) provides 300 and 600 watts of AC power in a Quasi-Sine wave that approximates the AC sine wave of electric utilities.

Typical Applications

- Building Site Tools
- Sonar Monitors
- Computers
- Fax Machines
- Televisions
- Radios

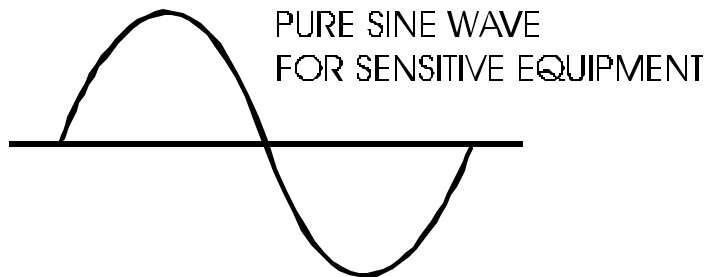


These inverters are very popular in commercial fishing for running Sonar Monitors as well as a wide variety of other light to medium duty tasks. Their low frequency operation (120 Hz internal switching), heavy filtering plus transformer type output keep electromagnetic emissions to the lowest possible levels, preventing interference with sensitive communication equipment.

PureSine Series

PureSine 300, 600 & 1000, (IPS300, IPS600, IPS1000 Series), produce 300, 600 & 1000 watts of AC power output in a pure sine wave that is cleaner and steadier than even power supplied by electric utilities.

- Sensitive Radio Equipment
- Recording Equipment
- Graphics workstations
- Precision Equipment
- Musical Instruments
- Home Theater
- High-end Stereos
- Laser Printers
- Computers



Powerful MosFet transistors, coupled with Analytic Systems' sensitive control circuitry provide reliable operation in the most demanding environments. The ON-OFF switch illuminates when AC power is present, providing positive indication of proper operation. Heavy input filtering ensures that no electrical noise will be generated to interfere with autopilots, radios or other devices sharing the same batteries.

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The transformer type output provides protection against the generation of electrical “noise” and gives excellent filtering of the AC waveform to ensure trouble-free operation of any type of AC equipment. The power our IPS series inverters produce is cleaner and has less fluctuation than even household AC.

Analytic Systems Inverters all have a large amount of input capacitance or internal energy storage. This significantly reduces the amount of 50/60 Hz ripple fed back to the battery and thus into all other equipment powered from the battery. We have seen many types of equipment such as autopilots, radars, radios etc. suffer reduced performance when sharing batteries with standard inverters that have very little input energy storage.

Inverters and Navigation Computers

Navigation Computers are becoming very popular as the major source of chart and navigation data for commercial and pleasure vessels alike. These computers typically need AC power to function. A common mistake is to plug the computer and monitor into a large Inverter or Inverter/Charger usually found on board. Two problems arise.

The First Problem is a momentary loss of power when some large load such as an fridge compressor starts, someone uses an electric drill, or simply places a cup of coffee in the microwave. The result: a crash! If the computer is interfaced to the autopilot, there is also a loss of control. Windows is very sensitive to crashes and rebooting including disk repair is very time consuming. The navigator is concerned with getting the computer back on-line and not paying proper attention to his surroundings. All of these are navigation hazards that should be avoided.

The Second Problem occurs when shore power is connected to the vessel. The Inverter/Charger changes to its charging function, and shoreside AC is permitted onto the vessel. If the vessel is the last on the dock, the AC is very poor, full of sags, spikes and waveform distortion from the loads applied by the other vessels. The possibility of damage to the expensive navigation computer is very high.

The Wrong Solution around these hazards is to purchase an inexpensive UPS from your local computer store. These UPS's were designed for use on sine-wave AC from the local power company. As the vast majority of inverters in service are Modified Sine-Wave, the UPS cannot correctly identify loss of AC and can even be damaged by the inverter. Nor are they made of materials intended for the Marine Environment. They are NOT a good solution for marine applications.

The Right Solution is to use an Analytic Systems 300 or 600 watt PureSine or Q'Sine Inverter as a dedicated source of power for your navigation computer. This guarantees clean correct power to your computer at all times whether at sea or at the wharf. With a PureSine inverter, you are guaranteed to eliminate power related problems with your computer due to the extremely pure AC waveform and crystal controlled frequency. And our Q'Sine inverters are of such good quality that many users have had great success using this series for their computer power at a significant savings.

300 Watts provides sufficient power for the typical computer-monitor combination, and also enough for a small ink-jet printer. 600 Watts provides extra power for a 2nd computer or a laser printer.

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Features of Analytic System Inverters

Low voltage shutdown circuitry protects batteries. An over-temperature circuit protects the inverter. When required, cooling is provided by an automatic fan control. The units are protected against overloads, as well as direct short circuits.

The IQS300, IQS600 and IPS300 series have built in electronic Ground Fault protection. Optional GFI receptacles can be added to the IPS600 and IPS1000 inverters.

All inverters feature 1500 Volts of isolation between the DC input and the AC output, which allows the inverter to be powered from a positive ground source such as telecomm -24 or -48 VDC power.

An optional AC input and automatic switch-over circuit is available to allow the IPS600 or IPS1000 inverter to function as an off-line UPS. Whenever AC power is available, it is connected to the outlet receptacles. If the AC power fails or drops below 98 volts rms, the inverter takes over powering the receptacles in as little as 2 AC cycles, and will continue until

power is restored, or the batteries become discharged.

On the IPS300 series, a special circuit reduces power consumption to the lowest possible level when the inverter is idle.

One or two 'Decora' style AC receptacles provide for easy connection of 110 VAC inverters. One or two IEC320 receptacles and plugs for output cables easily connect 220 VAC inverters to their loads. Provision is made for direct wiring of the IPS600 and IPS1000 inverters.

The major use of our IPS series inverters is for running desktop style computers in alternative energy environments such as boats, solar powered homes, etc.. They have also been used for running recording studios, tube type hi-fi stereos and home theatre. The US navy incorporates them into HumVee vehicles along with high output battery chargers also manufactured by Analytic Systems for running field computers. Disney uses them for running public address systems on roving carts used by street performers at Disneyworld.

Inverter Selection Guide

Q'Sine Series

DC Volts INPUT	AC Volts OUTPUT	WATTS Continuous / Peak	Hertz OUTPUT	Model Number
12	115 ± 5	300 / 450	60	IQS300-12-110
12	115 ± 5	600 / 900	60	IQS600-12-110
12	230 ±10	300 / 450	50	IQS300-12-220
12	230 ±10	600 / 900	50	IQS600-12-220
24	115 ± 5	300 / 450	60	IQS300-24-110
24	115 ± 5	600 / 900	60	IQS600-24-110
24	230 ±10	300 / 450	50	IQS300-24-220
24	230 ±10	600 / 900	50	IQS600-24-220
32	115 ± 5	300 / 450	60	IQS300-32-110
32	115 ± 5	600 / 900	60	IQS600-32-110
32	230 ±10	300 / 450	50	IQS300-32-220
32	230 ±10	600 / 900	50	IQS600-32-220

DC to AC Inverters

PureSine Series

DC Volts INPUT	AC Volts OUTPUT	WATTS Continuous / Peak	Hertz OUTPUT	Model Number
12	115 ± 5	300 / 450	60	♣ IPS300-12-110
12	115 ± 5	600 / 900	60	IPS600-12-110
12	115 ± 5	1000 / 1500	60	IPS1000-12-110
12	220 ±10	300 / 450	50	♣ IPS300-12-220
12	220 ±10	1000 / 1500	50	IPS1000-12-220
24	115 ± 5	300 / 450	60	♣ IPS300-24-110
24	220 ±10	300 / 450	50	♣ IPS300-24-220
32	115 ± 5	300 / 450	60	♣ IPS300-32-110
32	220 ± 10	300 / 450	60	♣ IPS300-32-220
20-40	115 ± 5	600 / 900	60	IPS600-20-110
20-40	115 ± 5	1000 / 1500	60	IPS1000-20-110
20-40	220 ±10	1000 / 1500	50	IPS1000-20-220
40-80	115 ± 5	1000 / 1500	60	IPS1000-40-110
40-80	220 ±10	1000 / 1500	50	IPS1000-40-220

♣ Note on availability: Within North America, the IPS300 series is available through Soltek Solar Energy (800-667-6527; www.soltek.ca).

Inverter Options

Option	Available For
Line AC Detect & Autoswitch Option	IPS600 and IPS1000 series
Remote Control Panel	All series