



**ACG1250inv/1250inv-24**

**ACG1250inv-SH/1250inv-24-SH**

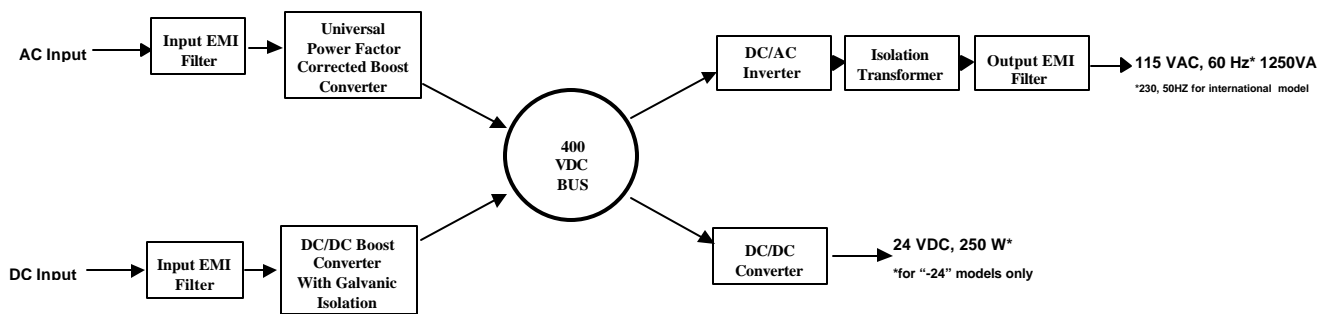
1000 Watt inverter with optional 24 VDC 250 Watt Output

## 1. INTRODUCTION

### Please save packing materials.

The inverter's shipping materials are designed to provide the necessary protection during shipping. These materials must be used if you ever have to return the inverter for service. Damage sustained during transit is not covered under warranty.

### Operation Topology



This unit is an ON-LINE Power Factor Corrected (PFC), inverter. This inverter accepts wide range voltage and frequency inputs to allow it to provide clean, reliable AC power to the equipment connected to it.

The inverter is continually creating the AC output from a high voltage DC bus, thus protecting your equipment from surges, spikes, brownouts, blackouts and noise.

Entire contents copyright © 1996, 1997 Acumentrics Corporation. All rights reserved; reproduction in whole or in part without permission is prohibited. Rugged-UPS is a registered trademark of Acumentrics Corporation. All other trademarks are the property of their respective owners.

## 2. SAFETY

### SAFETY GUIDELINES

- To reduce the risk of electric shock, disconnect the inverter from the mains before installing a computer interface signal cable (when used). Reconnect the power cord only after all signaling interconnections have been made.
- Connect the inverter to a two-pole, three-wire grounding mains receptacle. The receptacle must be connected to appropriate branch protection (fuse or circuit breaker). Connection to any other type of receptacle may result in a shock hazard and may violate local electrical codes.
- Do not allow water or any foreign object to get inside the Uninterruptible Power Source. Do not put objects containing liquid on or near the unit.
- To reduce the risk of overheating the inverter, avoid exposing the unit to the direct rays of the sun. Avoid installing the unit near heat emitting appliances such as a room heater or stove.

### Warnings

- This inverter contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Repairs are performed only by factory trained service personnel.

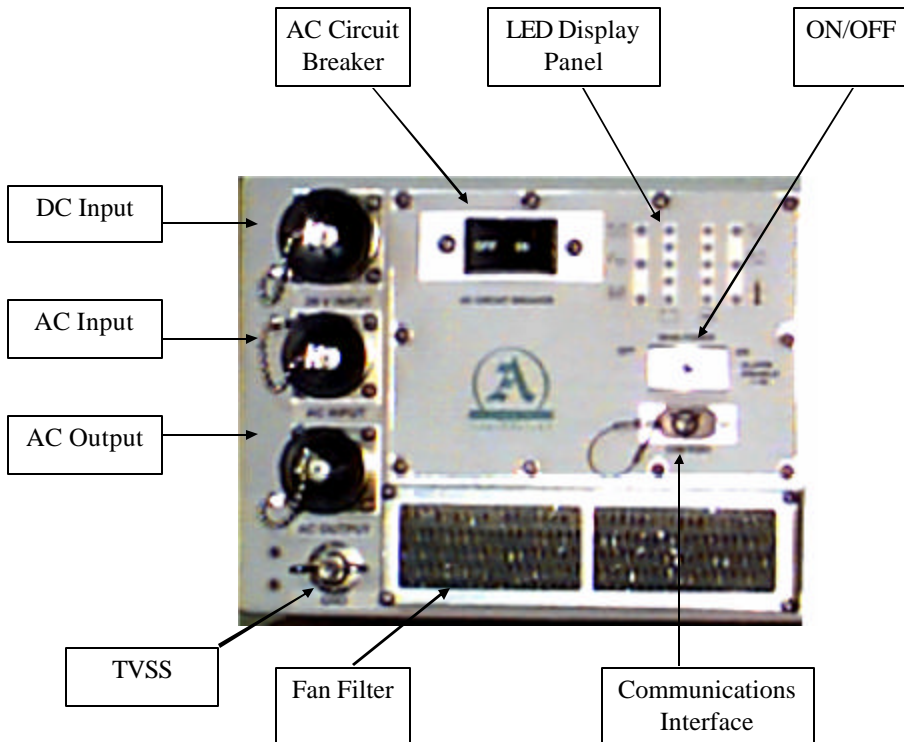
## 3. PACKAGE PURCHASE OPTIONS

### Model Options (120VAC/60Hz Output)

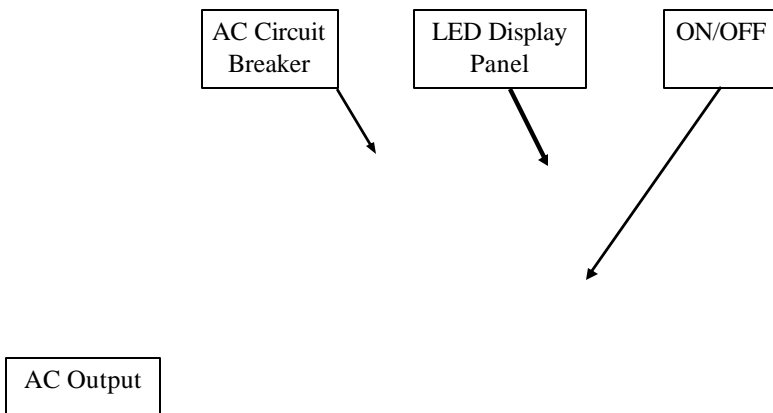
<b>Model</b>	<b>24 Volt DC Output 250 Watts</b>	<b>U.S. Navy Shipboard modified</b>
<b>ACG1250inv</b>		
<b>ACG1250inv-24</b>	<b>X</b>	
<b>ACG1250inv-SH</b>		<b>X</b>
<b>ACG1250inv-24-SH</b>	<b>X</b>	<b>X</b>

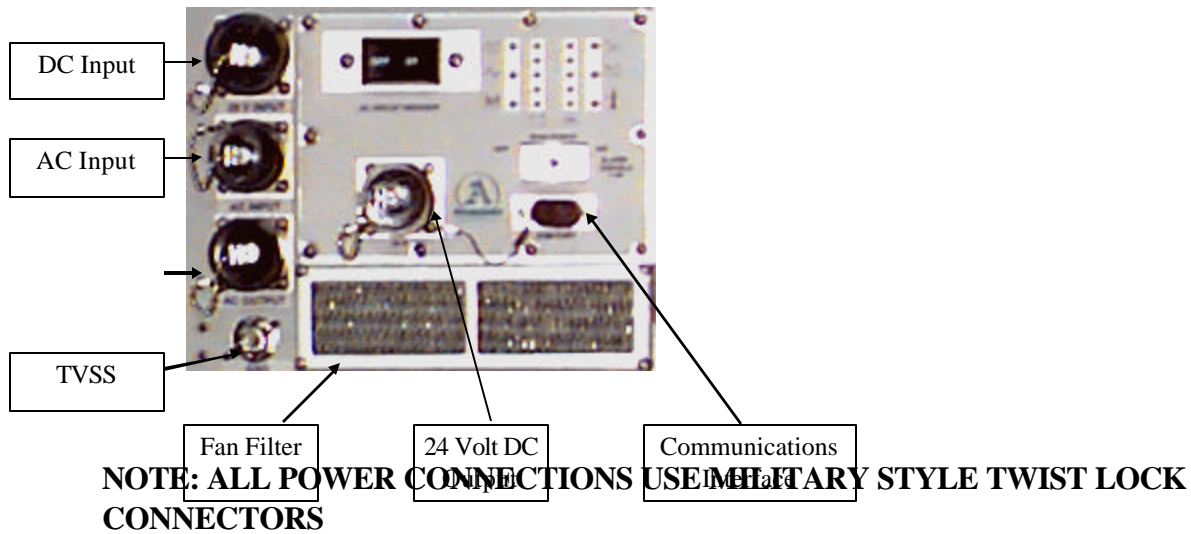
4. DISPLAYS AND FUNCTIONS

### Front Display ACG1250inv and ACG1250inv-SH



### Front Display ACG1250inv-24 and ACG1250inv-24-SH





**CONNECTIONS**

Input/Output	Cable Type	Connector Type
AC Input	Accepts an ACG9200 cable	MS3470L14-4P
AC Output	Accepts an ACG9201 cable	MS3470L14-4S
DC Input	Accepts an ACG9202 cable	MS27472T16F6P
DC Output	Accepts an ACG9203 cable	MS3470L14-4S
Communications Port	Used for UPS monitoring	DB9

**SWITCHES/ BREAKERS**

ON/OFF -	Powers the unit as well as turns on/off audible alarm.
AC Input Breaker -	Trips when the load exceeds the inverter's capacity.

**LED DISPLAY PANEL**

**Battery Status Meter** – Not applicable

**Load Meter** - Displays the power being drawn by the load (Range 0 - 1000 watts).

**Overload** - This LED lights when the loads connected to the UPS exceed the inverter's capacity.

**On Internal DC** – Not applicable

**Over Temperature** - This LED lights when the UPS internal operating temperature has exceeded specifications.

**On AC** - The unit is supplying power to the loads for the AC connection source.

**ON External DC** - The unit is supplying power to the loads from the external DC connection source.

**Replace Battery** – Not applicable

---

**MIL-STD-810E Specifications**

---

**Environmental**

Temperature:

Operating: 0°F to 120°F (-18°C to 49°C)  
Storage: -25°F to 150°F (-32°C to 66°C)  
Shock: 0°F to 70°F (-18°C to 21°C) and 120°F to 70°F (49°C to 21°C)  
in 10 minutes  
Turn-on: From 0°F to 40°F (-18°C to 4°C) in 10 minutes; above 40°F  
(4°C) instantaneous

Humidity: 10 to 95% (non-condensing)

Altitude: 0 to 15,000 ft. (operating)  
0 to 40,000 ft. (non-operating)

Vibration: Operation and transport in HHMMWV and tracked vehicles

Shock/Drop: 30° rotational (without transit cases). 3 drops form 3 ft. (in transit case)

Rain: Operation in conditions of blown precipitation and spillage

Sand and Dust: 3.5 mph, 20 minutes

Tilt: Operations stationary, 30° incline on any axis

Fungus: No nutrients/contaminants

EMI: MIL-STD-461C, Notice 2, CE03, CS02, CS06, RE02, and RS03

HAEMP: Quadripartite Standardization Agreement-244 (Classified)

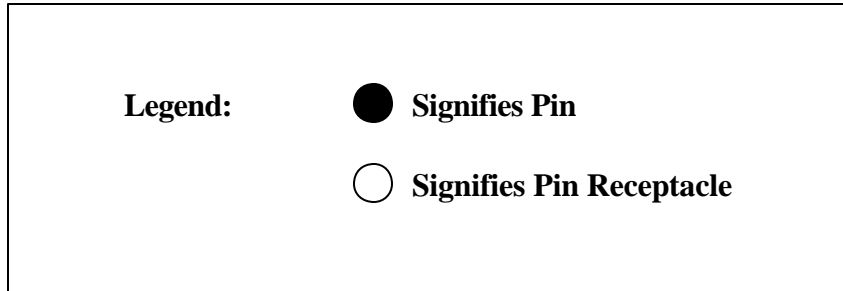
**5. SPECIFICATIONS**

<b>Input Specifications</b>	<b>Values</b>
Input AC Voltage	80-265 VAC
Frequency	47-63 Hz and 400 Hz at 120 VAC
Input Power Factor	0.8 Minimum
Input Circuit Breaker Rating	20 A
Input DC Voltage	22 to 31 VDC
Maximum DC Current	70 A
Simultaneous AC and DC inputs	AC takes precedence over external DC
DC input Connector	Matrix Series MS27472T13F6P Connector
AC input Connector	Matrix Series MS3470L14-4P Connector
<b>Output Specifications</b>	<b>Values</b>
Continuous Output Power	1000 W or 1250 VA (includes both AC and DC)
Load Crest Factor	2.5 Continuous
AC Output Voltage	115 VAC +/- 5%
AC Output Frequency	60 Hz. +/- 5%
AC Output Waveform	Sinusoidal
DC Output	250 Watt/24 VDC +/- 5%
AC Output Connector	Matrix Series MS3470L14-4S Connector
DC Output Connector	Matrix Series MS3470L14-4S Connector
<b>Mechanical</b>	<b>Values</b>
Size	Chassis: 8.5"wide x 16" deep x 6" tall Envelope: 8.5"wide x 17" deep x 6.25" tall
Weight	35 lbs.



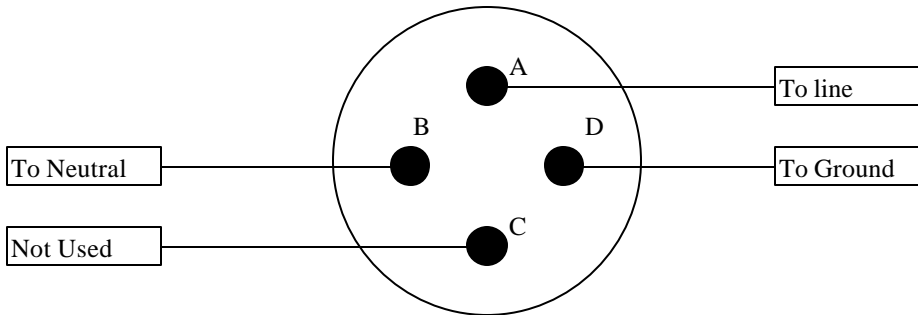
**Pin Out Specifications:**

**Note:** Acumentrics does not warranty the ACG1250 series against damages caused by cables manufactured by any parties other than the Acumentrics Corporation.



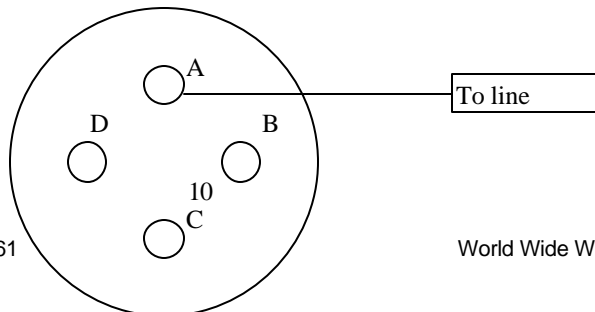
**AC Input Pin Out Functionality:**

Plug Part Number MS3476W14-4S



**AC Output Pin Out Functionality:**

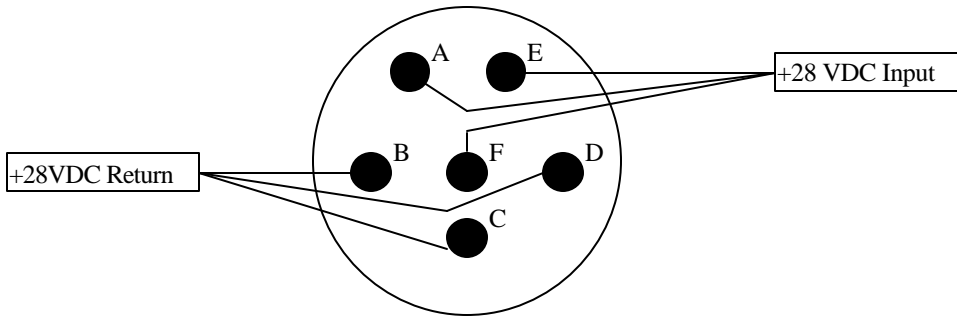
Plug Part Number MS3476W14-4P





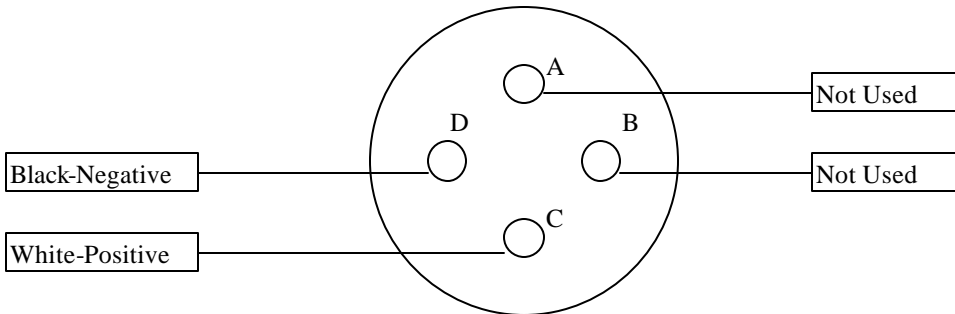
**DC Input Pin Out Functionality:**

Plug Part Number MS27473T16B6S



**DC Output Pin Out Functionality:  
(if applicable)**

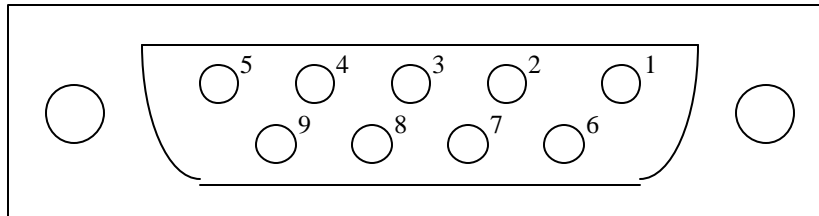
Plug Part Number MS3476L14-04P



### Communications Interface Pin Out Functionality (DB9):

The DB9 connector is a 9 pin D type female with the following RS232 level:

TRUE = SPACE = +7.5V or greater  
FALSE = MARK = -7.5V or less



- Pin 1- Not utilized
- Pin 2- Not utilized
- Pin 3- AC power good. TRUE if AC input is viable.
- Pin 4- External shutdown input. When TRUE shuts down inverter.
- Pin 5- Signal ground common.
- Pin 6- Not utilized
- Pin 7- Not utilized
- Pin 8- Source fail. Goes TRUE if input power (AC or DC) fails or exceeds acceptable limits.
- Pin 9- Over temperature warning. Goes TRUE if internal temperature of inverter exceeds safe upper limit.

### Interface for the ACG1250 series:

The Comm Port is an RS232 compatible interface through a nine pin D type connector. This port provides UPS and input power status information to the operator. UPS shutdown capability is provided as well. These functions are monitored through the use of the Acumentrics Shutdown Software for both Sun Solaris and DEC

systems. The Software is not included with the unit but can be purchased separately as the ACG9500 for Sun systems with cable and the ACG9501 for the DEC systems with cable.

## 6. ACCESSORIES

### Cables:

ACG9200	AC input cable
ACG9201	AC output cable
ACG9202	DC input cable
ACG9203	DC output cable

## 7. WARRANTY INFORMATION

### Limited Warranty

Acumentrics Corporation warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from Acumentrics. Products must be returned to Acumentrics with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. The product must be shipped back in the original packaging. This warranty does not apply to equipment which has been damaged by accident, negligence, or miss-application or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

EXCEPT AS PROVIDED HEREIN, ACUMENTRICS CORPORATION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL ACUMENTRICS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, Acumentrics is not liable for any costs, such as lost profits or revenue, loss of

equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

## 8. LIFE SUPPORT USE INFORMATION

### **Life Support Policy**

As a general policy, Acumentrics Corporation does not recommend the use of any of its products in life support applications where failure or malfunction of the Acumentrics product can be reasonably expected to cause failure of the life support device or to significantly effect its safety or effectiveness. Acumentrics does not recommend the use of any of its products in direct patient care. Acumentrics will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Acumentrics that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of Acumentrics is adequately protected under the circumstances.

Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), auto transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pace makers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators for both adults and infants, anesthesia ventilators, and infusion pumps as well as any other devices designated as “critical” by the U.S. FDA.

## Appendix A

### Front Fan Filter Servicing Instructions

The front fan filter purchased with the ACG1250U or ACG1250U-24 has been designed to reduce the amounts of sand, dirt and dust which can enter the unit via the fan. For this filter to operate effectively it must be serviced monthly. If the unit is being utilized in a harsh or dusty environment servicing should be more frequent.

To service the filter the following steps should be followed:

1. Remove the fan filter from the unit by gently pulling the top left and right hand corners of the filter out. Once these corners are removed pull the filter cover gently off the fan cover
2. Once the filter cover is removed from the unit, the soft mesh can be removed from the filter housing and taped to remove loose dirt then rinse with warm water. If the filter mesh is extremely caked with dirt, a mild soap can be used to assist in the cleaning.
3. Once the mesh has been washed dry it thoroughly.
4. Place the clean dry mesh into the fan housing.

5. Place the fan filter back onto the unit by pressing firmly in the center on all four sides. Be sure the fan filter snaps into all four grooves which are on each side of the fan cover.