

# INSTALLATION & OPERATION MANUAL

## VTC120 Series Voltage Converter



# IMPORTANT & SAFETY INSTRUCTIONS

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SAVE THESE INSTRUCTIONS — This manual contains important safety and operating instructions for the converter.

## 1. GENERAL

1. **WARNING** — Unless the label specifically states that the converter may be used for battery charging, it must not be used for that purpose.
2. **CAUTION** — To reduce risk of injury, charge only lead acid or sealed gel cell type rechargeable batteries. Other types of batteries may burst causing personal injury and damage. (Applies to battery chargers only!)
3. Do not expose converter to rain or snow.
4. Use of an attachment not recommended or sold by the converter manufacturer may result in a risk of fire, electric shock, or injury to persons.
5. Do not disassemble converter; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
6. To reduce risk of electric shock, disconnect converter from batteries or other DC supply before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

## 2. CONVERTER LOCATION

- i. Never place converter directly above battery; gases from battery will corrode and damage converter.
- ii. Never allow battery acid to drip on converter when reading gravity or filling battery.

## 3. I/P & O/P CONNECTION PRECAUTIONS

Connect and disconnect DC input & output connections only after setting converter switch to OFF position.

Analytic Systems does not recommend the use of the VTC120 Series Voltage Converters in life support applications where failure or malfunction of this product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. Analytic Systems does not recommend the use of any of its products in direct patient care. Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, 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.

# Introduction

The VTC120 Series Voltage Converter is a variable duty cycle switching power supply with a precision linear regulator output except for the VTC120nr-12-24. It can be configured to run from a 12 VDC or 24 VDC battery system to provide output voltages as shown below. Depending on the version, the output is either Common Negative, or Fully Isolated from the input. Three high output versions are also available.

Applications include running 24V PLC controls from a 12 Volt battery system, or any other application requiring 24 VDC when only 12 VDC is available or to provide ground isolation between two 12 VDC or 24 VDC power systems, or between a 12 VDC and 24 VDC power system.

# Specifications

Non-Isolated Output			
Model (VTC120)	-12-3.6	-12-24	h-12-12
Input Volts (DC)	11 – 15	11 – 15	11 – 15
Input Amps (max)	2.3	15	11
Input Fuse	AGC-5	AGC-20	AGC-15
Output Volts (DC)	3.6	24.0	12.0
Isolation Input-Output	Common Negative		
Output Amps	5 Cont. / 5.5 Peak		7.5 Cont. / 8.0 Peak

Non-Regulated	
Model (VTC120)	nr-12-24
Input Volts (DC)	11 – 14
Input Amps (max)	15
Input Fuse	AGC-25
Output Volts (DC)	25.0 ± 5
Isolation Input-Output	Common negative
Output Amps	5 Cont. / 9 Peak

Isolated Output									
Model (VTC120)	i-12-12	i-12-24	i-24-12	i-24-24	i-36-15.6	i-48-05	i-48-12	i-48-24	i-48-48
Input Volts (DC)	11 – 15	11 – 15	22 - 30	22 - 30	33-45	40 – 60	40 – 60	40 – 60	40 – 60
Input Amps (max)	8.5	15	3.8	7.5	4.8	1	2.1	4.2	8.4
Input Fuse	AGC-10	AGC-20	MDA-6	AGC-10	MDA-8	MDA-2	MDA-5	MDA-5	AGC-10
Output Volts (DC)	12.0	24.0	12.0	24.0	15.6	5.0	12.0	24.0	48.0
Output Amps	5 Continuous / 5.5 Peak								2.5 Cont. / 5.5Peak
Isolation Input-Output	> 500 VDC								

## Isolated High Output

Model (VTC120)	ih-12-12	ih-12-15.6	ih-12-24	ih-24-12	ih-24-24	ih-36-15.6	ih-48-15.6	ih-48-12
Input Volts (DC)	11 – 15	11 – 15	11 – 15	22 - 30	22 - 30	33 – 45	40 – 60	40 – 60
Input Amps (max)	11	14.2	21.8	6.2	10.9	4.8	3.9	3.0
Input Fuse	AGC-15	AGC-20	AGC-25	MDA-7	AGC-15	MDA-8	MDA-7	MDA-7
Output Volts (DC)	12.0	15.6	24.0	12.0	24.0	15.6	15.6	12.0
Output Amps	7.5 Continuous / 8.0 Peak							
Isolation Input-Output	> 500 VDC							

\* Specifications subjects to change without notice.

Designed and manufactured by: **ANALYTIC SYSTEMS WARE (1993) LTD.**

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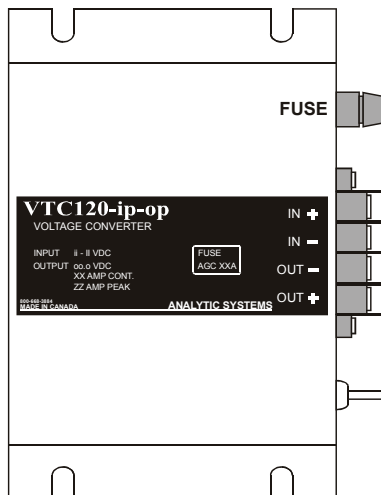
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## Installation

### MOUNTING

Mount the unit in a DRY location. Allow at least 1 inch of clearance around the unit for adequate cooling.



## POWER CONNECTION

**The ON/OFF switch must be in the OFF position before connecting or disconnecting power to the unit!**

A terminal strip is provided at one end of the unit for connecting input and output leads.

Connect leads as follows:

Input Positive to IN +	Output Negative to OUT -
Input Negative to IN -	Output Positive to OUT +

Ensure that the total average load connected does not exceed the continuous current rating of the unit.

## CONNECTIONS

Turn the switch on the side of the unit on to energize the outputs.

## Troubleshooting

If the current demanded by the devices connected to the unit exceed the maximum output current rating, the output voltage will drop to maintain the current at the maximum level.

If the fuse blows whenever it is turned on, check that the power leads are connected to the battery with the correct polarity; if they are then the unit is damaged and must be returned for repair.