



## DC/DC Converters

### VTC120-MS Series DC/DC Converters

#### Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation



#### Military Option

Most of the products manufactured by Analytic Systems can be adapted for military use (Commercial Off The Shelf).

We provide four different levels of ruggedization; most often, a product in military use will use the extra-wide temperature range components to allow operation to -55 degrees Celsius.

The printed circuit boards are also protected against condensation and are enhanced with vibration protection that meets or exceeds MIL-STD810F, Method 514-3 and Cat-1 Proc 1.

C.O.T.S. products are designed to meet EMC radiated and conducted emissions MIL-STD 461E.

All C.O.T.S. products are manufactured in accordance with IPC-A-610.

#### Description

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). This model is common negative. This means that the input negative (ground) connection and the output negative (ground) connection are common or tied together.

Applications include running 24V PLC controls or electronic equipment from a 12 Volt battery system, or any other application requiring 24 VDC when only 12 VDC is available.

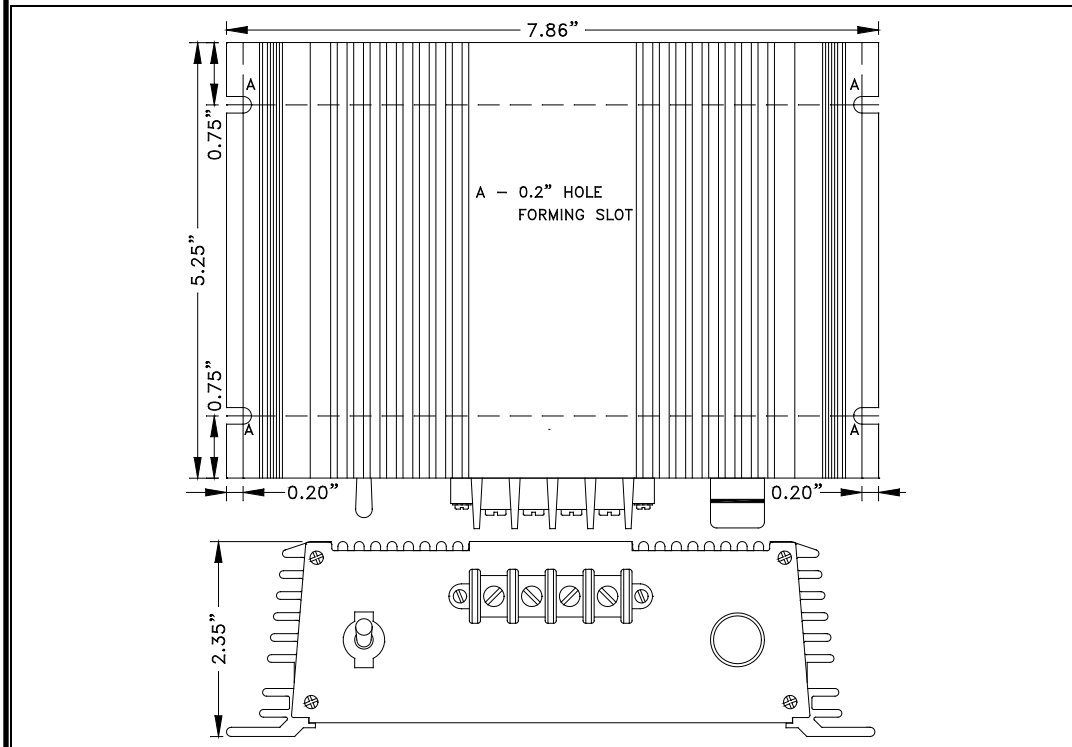
We are confident that you will get many years of reliable service from this Voltage Converter.

#### Features

- Versatile design with wide variation of input and output combinations
- Precision linear regulator final stage for ultra clean output for all units (except VTC120nr-12-24)
- Extremely rugged and well suited for harsh environments
- High tolerance for shock and vibration
- Ultra-quiet low EMI operation
- Ideal for running 24V PLC controls from 12 VDC
- Reverse input protection
- Short circuit protection
- Can be built to Class 1, Division 2 Standards for Hazardous Duty
- 3 year parts and labour warranty

# VTC120-MS Series DC/DC Voltage Converter

## Mechanical Diagram



## Specification

### Electrical (Input)

Model - VTC120	-12-24	h-12-12	nr-12-24
Input Volts (DC)	11-15	11-15	11-14
Input Amps (max)	15	11	15
Input Fuse (AGC)	20	15	20
Noise on Input	< 25 mV		

### Environmental Specification

Operating Temp. Range	-55° to +50°C @ maximum output Derate Linearly 2.5% per °C from 50°C
Humidity	0 - 95°C Relative Humidity (non-condensing) with standard conformal coating
Audible Noise	NONE Ødb @ 3 ft
Typical Service Life	> 10 yrs. (87,600 hrs)
Isolation	Any Input or Output to Case 500 VDC Common Negative

### Electrical (Output)

Output Volts (DC)	24.0	12.0	25.0 +/- 5V
Output Amps	5 Cont. / 5.5 Peak	7.5 Cont. / 8.0 Peak	5 Cont. / 9 Peak
Output Ripple & Noise	< 5 mV		
Transient Response	< 1V for 50% Surge		
Regulation (Line & Load)	< +/- 0.5%		
Duty Cycle	Peak 20% for 5 min maximum Continuous 100% for 24 hours per day		
Efficiency	> 80% @ Maximum Output		
EMC	Designed to meet MIL-STD 461E		

### Mechanical Specification

Length	7.9 in / 20.1 cm
Width	6.0 in / 15.2 cm
Height	2.4 in / 6.1 cm
Material	Marine Grade Aluminium
Finish	Black Anodize / Black Powder Epoxy
Fastenings	All 18-8 Stainless Steel
Weight	2.5 lb / 1.1 kg
Connections	Four contact output terminal
Vibration	Designed to meet MIL-STD810F, Method 514-3 and Cat-1 Proc 1
Interconnect	IPC-A-610
Warranty	3 years

Available From:

**ANALYTIC SYSTEMS**  
INNOVATIVE POWER CONVERSION SOLUTIONS

ISO 9001:2008 Certified Quality System