

MajorVTC120 DC/DC Voltage Converter

MajorVTC120 Voltage Converters are variable-duty, cycle-switching power supplies with a precision linear regulator output (except for the **MajorVTC120nr-12-24**). **MajorVTC120** units can be configured to run from a 12 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 24 Volt PLC controls from a 12 Volt battery system, or any other applications requiring 24 VDC when only 12 VDC is available or to provide ground isolation between two 12 or 24 VDC power systems, or between a 12 and 24 VDC power system.



Product Features

- **Versatile Design**
 - ▶ With wide variation of input & output combinations
- **Precision Linear Regulator Final Stage**
 - ▶ For ultra clean output for all units (except VTC120nr-12-24)
- **Extremely Rugged**
 - ▶ Well suited for marine & other demanding environments
- **High Tolerance**
 - ▶ For shock and vibration
- **Ultra-Quiet**
 - ▶ Low EMI operation
- **Many Isolated Versions**
 - ▶ Including two high output for converting positive ground to negative ground or resolving other ground related problems
- **Ideal for Running 24V PLC Controls from 12 VDC**
- **Three Common Negative Versions**
 - ▶ Including a high output version
- **Protection**
 - ▶ Reverse input protection
 - ▶ Current limiting
 - ▶ Short circuit protection
- **Options**
 - ▶ Ruggedization against shock and vibration
 - ▶ Conformal coating
 - ▶ Parallel output diodes allow connection between two or more identical units
 - ▶ Can be built to Class 1, Division 2 Standards for Hazardous Duty
 - ▶ Extra wide Temperature Range -40°C to +70 °C

Product Specifications

Mechanical & Environmental

Operating Temperature Range	0 to 40°C @ Maximum Output; Derate Linearly 2.5% per °C from 40°C
Humidity	0-95°C @ Relative Humidity (non-condensing) with optional conformal coating
Audible Noise	None Ødb @ 3 feet
Typical Service Life	>10 years (87,600 hours)
Isolation Input or Output to Case	>500 VDC
Dimensions (L x W x H)	7.9 x 6.0 x 2.4 in / 20.1 x 15.2 x 6.1 cm
Physical	1 inch (2.5 cm) clearance all around; Marine grade aluminum; Black powder epoxy coat, 18-8 Stainless steel fastenings
Weight	2.5 lbs / 1.1 kg
Connections	4 contact output terminals
Warranty	3 years
Safety	CSA/UL Pending

Model Selection Guide

Non-Isolated Output

Model	MajorVTC120-12-24	MajorVTC120-12-3.6	MajorVTC120h-12-12
Input Volts	11-15	11-15	11-15
Input Amps (Maximum)	15	2.3	11
Input Fuse	20	5	15
Output Volts	24.0	3.6	12.0
Isolation Input-Output	Common Negative	Common Negative	Common Negative
Output Amps	5 Continuous / 5.5 Peak	5 Continuous / 5.5 Peak	7.5 Continuous / 8 Peak

Isolated Output

MajorVTC120i	12-12	12-24	12-48	24-24	24-48	48-12	48-24
Input Volts	11-15	11-15	11-15	22-30	22-30	40-60	40-60
Input Amps (Maximum)	8.5	15	27	7.5	14	2.1	4.2
Output Volts	13.6	24.0	48.0	24.0	48.0	12.0	24.0
Isolation Input-Output	>500 VDC	>500 VDC	>500 VDC	>500 VDC	>500 VDC	>500 VDC	>500 VDC
Output Amps	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak	5 Cont / 5.5 Peak

Isolated High-Output

Model	MajorVTC120ih-12-12
Input Volts	11-15
Input Amps (Maximum)	11
Output Volts	12.0
Isolation Input-Output	> 500 VDC
Output Amps	7.5 Continuous / 8 Peak

Non-Regulated Output

Model	MajorVTC120nr12-24
Input Volts	11-14
Input Amps (Maximum)	15
Output Volts	V _{in} x 2
Isolation Input-Output	> 500 VDC
Output Amps	5 Continuous / 9 Peak

