



**samlexsolar**

A Division of Samlex America Inc.

**How to choose  
DC-DC  
Converters**

Powerpoint  
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# DC-DC Converters

Used to operate devices at a different voltage level from the battery system voltage.

e.g. Operating a 24 volt device from a 12 Volt Battery system

Also used to stabilize the DC voltage

e.g. Stabilize the voltage output to 12.5 Volts from the battery, the voltage of which may vary from 10 Volts to 12.8 volts depending on the state of Charge of the Battery

## Types of DC-DC Converters

### Isolated DC-DC Converters

- Provide isolation between input and output
- More expensive

### Non-Isolated DC-DC converters

- No isolation between input and output
- Less expensive



# Specification & sizing

## DC-DC converters specified by

- Power Rating (watts)
- Input DC Voltage range
- Output DC voltage
- Type: Isolated or Non-Isolated

## DC-DC converter sizing

- Power rating of DC-DC converter = Peak Power consumption (including surge requirements) of all output connected loads



Isolated DC-DC converters may be used to get negative voltages from positive voltages and vice versa

# Recommendations

- **Enclosed OEM Isolated DC-DC Converters**

Fully Isolated Positive & Negative Ground Converters that provide full dielectric isolation (no electric contact) between input and output circuits. Input DC voltage can be stepped up or down. Models are available with output power ranging from 15 Watts to 360 Watts.

- **Step-Down Isolated DC-DC Converters**

DC - DC power converters that reduce the input DC voltage level to a lower value. These are housed in a metal case that can be easily mounted directly to (or near) your equipment. Models are available with output current capability ranging from 5 Amps to 60 Amps.

- **Step-Up DC-DC Stand Alone Converters**

DC - DC power converters that raise the input DC voltage level to a higher value. These are housed in a metal case that can be easily mounted directly to (or near) your equipment. Models are available with output current capability ranging from 5 Amps to 60 Amps.



# Recommendations

- **Industrial OEM Isolated DC-DC Converters**

Fully Isolated Positive & Negative Ground Converters that provide full dielectric isolation (no electric contact) between input and output circuits. Input DC voltage can be stepped up or down. Models are available with output power ranging from 15 Watts to 360 Watts.



- **On Board DC Power Converters**

DC-DC converters are designed in Module or Brick-type packages for insertion into a printed circuit board. Multiple input, output and power configurations are available.

