

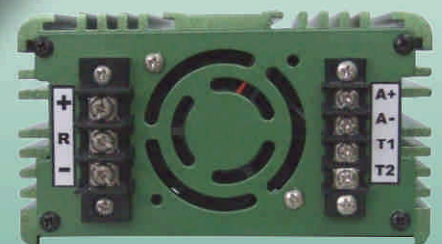
**DC-1204-30**

**VOLTAGE TO CURRENT CONVERTER**

**Specially Design to Power Vehicle  
Hydrogen Electrolyzer for Hydrogen Injection**

- Convert 12V dc input voltage to constant dc output current
- Panel LEDs for converter status monitoring
- External thermistor for vehicle hydrogen electrolyzer temperature monitoring
- External LED connection for low output voltage alert which implies the electrolyte's resistance is too low

**Microcontroller Based !!  
30A Output !!**



**Rear Panel**



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# DC-1204-30 12V DC TO 30A DC

## VOLTAGE TO CURRENT CONVERTER

### Background

Hydrogen injection is a fantastic opportunity to make the first step to an end goal of an efficient engine that will run without any fossil fuel. It is the technology of using hydrogen as a combustion enhancement in internal combustion engines. Hydrogen injection consists of two main elements; Hydrogen and Oxygen. The purpose of these two elements is to split the long molecular chains of the fossil fuels. Hereby the combustion will be more complete and at a lower temperature which leads to a dramatic decrease of harmful exhaust emissions. Because the hydrogen works as a catalyser the combustion engine has a higher efficiency which leads to a lower fuel consumption.

The advantages of hydrogen inject include:

- (1) Reduction of fuel consumption (about 10-20%)
- (2) Lower NOx emissions
- (3) Lower CO and CO2 emissions
- (4) Longer lifetime of the engine and lower maintenance costs

### Features

- Specially design to power vehicle hydrogen electrolysizer for hydrogen injection
- Convert 12V dc input voltage to constant dc output current
- Adjustable output current
- Panel LEDs for converter status monitoring
- External LED connection for low output voltage alert which implies the electrolyte's resistance is too low.
- External thermistor for vehicle hydrogen electrolysizer temperature monitoring

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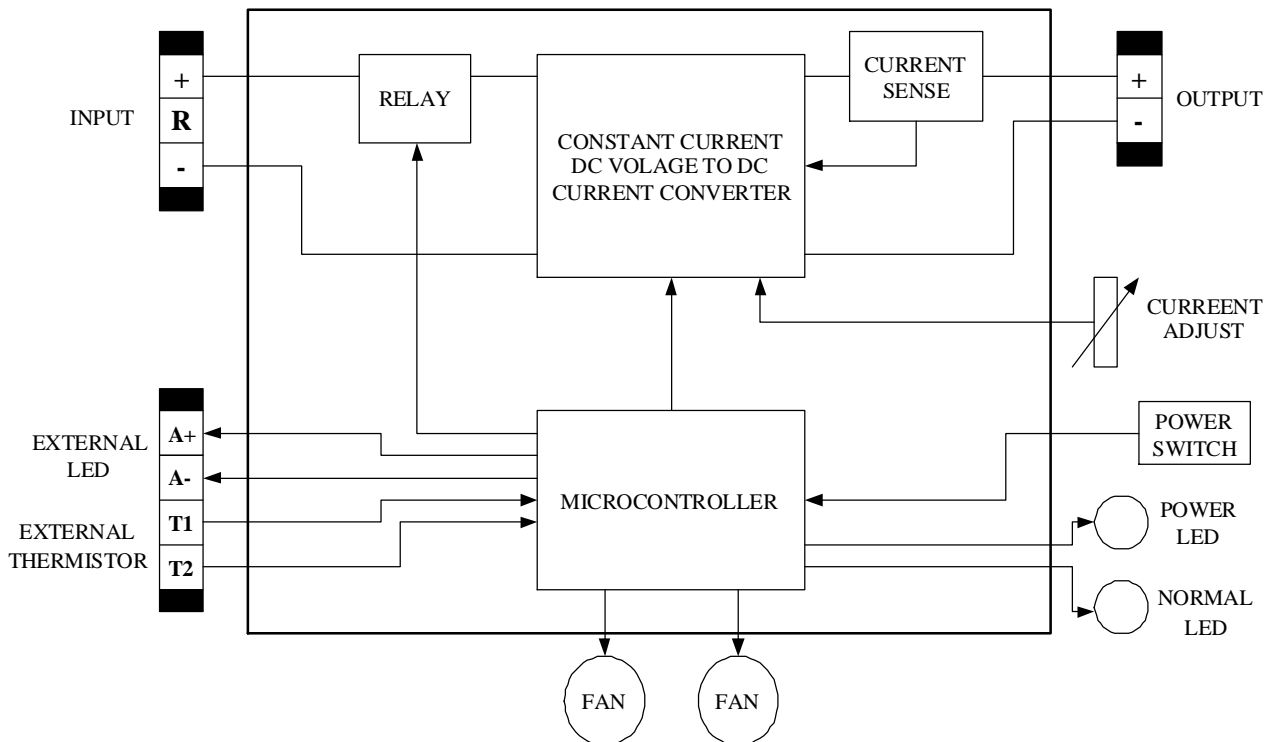
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## Specifications

Input Voltage Range	10 – 15V DC
Adjustable Output Current	28A – 32A DC (Nominal 30A)
Output Voltage	3.5V – 4.8V (Nominal 4V)
Current Ripple	5% (Maximum)
Protections	(1) Input polarity (2) Low & high input voltage (Auto Resume) (3) Output short circuit (Auto Resume) (4) Output over voltage (Auto Resume) (5) Over temperature (Auto Resume)
Panel LEDs	Power (Red) & Output (Green) LEDs
External Connections	(1) 2-pole for external LED (2) 2-pole for external thermistor
Alert Signal	External LED flashing when the output voltage is below 3.5V (Auto Resume)
External Control	Output current is limited to 20A when external thermistor reaches 76C and resume to normal when drops below 62C
Cooling	Controlled DC Fan x 2
Operating Temperature	0 – 55 °C
Dimensions(mm)	150 (W) x 190 (L) x 68 (H)
Weight	1Kg

## Functional Block Diagram



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