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ISM-DC-AT512-P
Small Form Factor +5V and +12V DC/DC Power Supply

Features

- Wide input range: 10V to 50VDC
- Voltage output: +5V and +12V
- No minimum load required for regulation
- Outputs with short circuit and overload protection
- LEDs provide visual status of power
- Two Phoenix® terminal blocks for output power
- High efficiency design
- Fast transient response
- No fan or heat sink required
- -40° to +85°C operation supported
- Small size: 3.6 x 3.8 inches (90 x 96mm)
- PC/104 and PC/104-*Plus* version with ATX support available
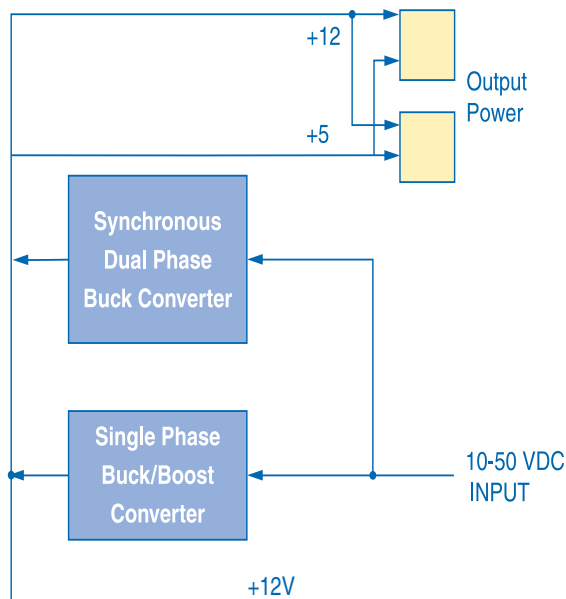- Custom OEM configurations available
- RoHS compliant

Product Description

WinSystems' ISM-DC-AT512-P is a dual output, DC/DC power supply designed for small form factor embedded systems. It features a very wide voltage input range from 10 to 50 volts DC. This allows the unit to operate with 12, 24, or 48 volt battery or distributed DC power systems. It opens up a wide array of applications including transportation, Mil/COTS, security, solar-powered, and telecommunications.

The design has fast transient time and low ripple on the outputs. Each output is short circuit protected and current limited. A minimum load is not needed to bring the supply into regulation.

When power is applied to the board, two LEDs will illuminate providing a visual status that power is available for the +5V and +12V outputs. If one of these LEDs is not lit or is pulsing, then the respective supply voltage is not in regulation. A pulsating LED is an indication that the respective converter is in current limit.

The ISM-DC-AT512-P is designed to operate at extended temperatures without forced air cooling or heatsink. This maximizes reliability and reduces weight for the module and the system it powers.

ISM-DC-AT512-P Block Diagram

- +12 → Output Power
- +5 → Output Power
- **Synchronous Dual Phase Buck Converter**
- **Single Phase Buck/Boost Converter**
- 10-50 VDC INPUT
- +12V

ISM-DC-AT512-P: +5V and +12V DC/DC Power Supply

The board is populated with low-profile, soldered down, surface mount components which keep the overall height of the board low.

Input Connector - A Phoenix Combicon connector allows power to be easily and securely brought to the board with a quick way to remove it if necessary. The mating connector is shipped with each board.

Output Connector - There are two, four-pin Phoenix Contact terminal blocks at the edge of the board to connect to the output power.

Fanless - No fans or heatsinks are required to meet the extended operating temperature range of -40° to +85°C.

Other Standard Configurations - WinSystems offers this board in other models. The PCM-DC-AT500 card is a PC/104 single +5V power supply.

The PCM-DC-AT512-P is a PC/104 triple output supply providing +5V, +12V, and -12V.

The PPM-DC-ATX-P is a PC/104-*Plus* power supply that supports the ATX power convention. Output voltages are +5V, +3.3V, +12V, -12V, and +5V Standby.
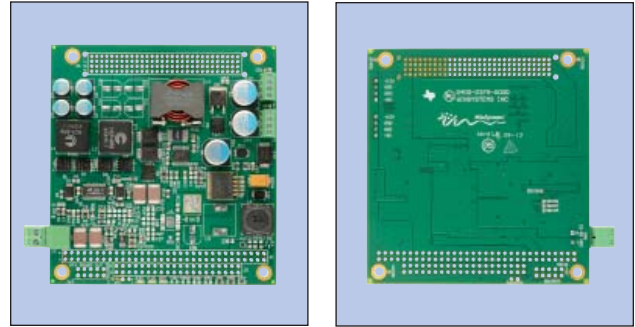

PPM-DC-ATX-P Power Supply

Please reference the specific data sheets for details on these DC/DC power supplies.

Custom Configurations - WinSystems offers additional ruggedized options and custom configurations for OEMs. Please contact an Applications Engineer to discuss your specific requirements.

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Front and Back Picture of ISM-DC-AT512-P

Technical Specifications

Electrical
Input
  Voltage (V_{IN})   10 to 50VDC

Output
  Voltage/current   +5V @ 20A
  (at V_{IN} = +12V)   +12V @ 3A
  Load regulation   30 mV
  Line regulation   20 mV
  Ripple   <150 mV

Connectors
Auxiliary In   2-pin, 3.81mm right angle header
Auxiliary Out   8-pin, 3.81mm right angle header

Environmental
Operational from -40° to +85°C
RoHS compliant

Mechanical
Dimensions   3.6 x 3.8 inches (90 x 96mm)
Weight   3.03 oz. (85.90 gm)
PC Board   0.078 inches, four layer FR4

Ordering Information
Visit www.WinSystems.com for complete ordering details.

ISM-DC-AT512-P   Dual output +5V and +12V DC/DC power supply
PCM-DC-AT500   Single +5V output, PC/104 DC/DC power supply
PCM-DC-AT512-P   Triple output +5V and ±12V PC/104 DC/DC power supply
PPM-DC-ATX-P   PC/104-*Plus* ATX power supply

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