

## Features

- Wide input range: 10V to 50VDC
- Voltage output: +5V, +3.3V, +12V, -12V, and +5VSB
- Power On/Off, Power Good, and +5 VSB supported for power management and sleep modes
- No minimum load required for regulation
- Outputs have short circuit/overload protection
- LEDs provide visual status of power
- Two Phoenix® terminal blocks for accessory power
- High efficiency design
- Fast transient response
- No fan or heatsink required
- Up to -40°C to +85°C operation supported
- Small size: 3.6 x 3.8 inches (90 x 96mm)
- Custom OEM configurations available
- RoHS compliant



## Product Description

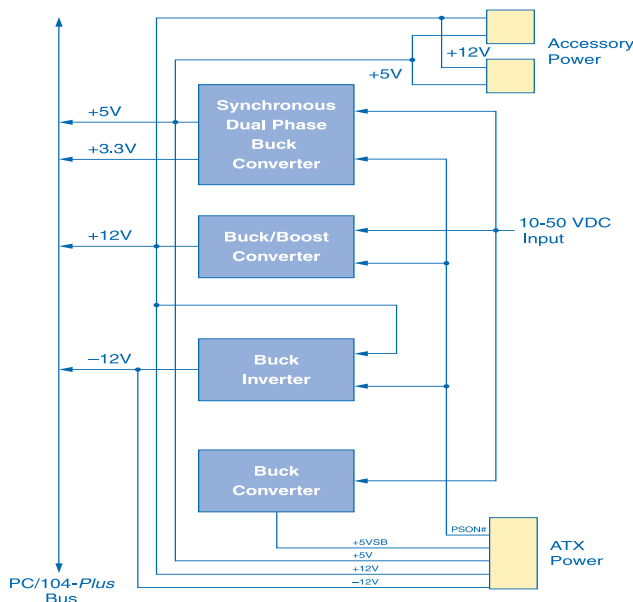
WinSystems' PPM-DC-ATX-P is a PC/104-Plus module that produces five regulated DC voltages from a common DC input. It features a very wide voltage input range from 10 to 50 volts. This allows the unit to operate with 12, 24, or 48 volt battery or distributed DC power systems.

This high-efficiency power supply design supports ATX-compatible signals so it can use power management modes. ATX mode support Power On/Off, Power Good, and +5VSB to allow software controlled shutdown and sleep modes.

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, five LEDs will illuminate providing a visual status that power is available for the +5V, +3.3V, ±12V, and +5V standby. If one of these LEDs is not lit or is pulsing ON and OFF, then the respective supply voltage is not in regulation. A pulsating LED is an indication that the respective converter is in current limit.

There is also a connector for an ON/OFF switch for remote shutdown of the system. However, the +5VSB source will continue to be active.



PPM-DC-ATX-P Block Diagram

## PPM-DC-ATX-P: ATX Model DC/DC PC/104-Plus Power Supply

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

The PPM-DC-ATX-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.

**Input Connector** - A Phoenix Combicon connector allows for 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 standard board.

**PC/104-Plus Connectors** - The ground, power and control signals are wired directly to their respective pins on the PC/104 and PCI-104 connectors.

**Accessory Power** - There are two, four-pin Phoenix Contact terminal blocks at the edge of the board to provide +5V and +12V to accessories.

There is also a microATX connector on the board that allows access to the +5V, +3.3V, +12V, -12V, and +5VSB DC voltages. The Power On/Off and Power Good control signals are also available at this connector.

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

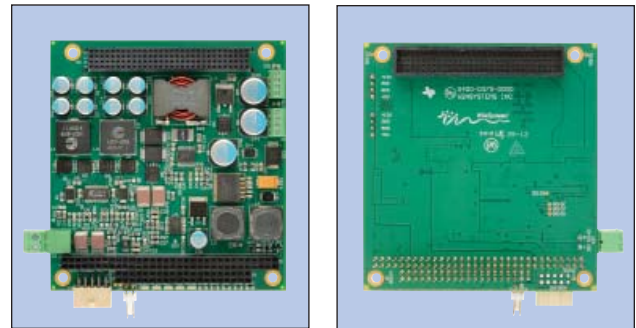
**Other Standard Configurations** - WinSystems offers other non-ATX versions. All boards can operate over the temperature range of -40°C to +85°C without a fan or heatsink.

ISM-DC-AT512-P is a stand alone DC/DC power supply with +5V and +12V. The PCM-DC-AT500 card is a single +5V PC/104 power supply. The PCM-DC-AT512-P adds a +12V, a -12V converter, and includes accessory power terminals.

Please reference the specific data sheets for details on the other 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 PPM-DC-ATX-P

### Technical Specifications

#### Electrical

##### Input

Voltage ( $V_{IN}$ ) 10 to 50VDC

##### Output

Voltage/current +5V @ 10A  
(at  $V_{IN} = +12V$ ) +3.3V @ 10A  
+12V @ 3A  
-12V @ 800mA  
+5VSB @ 2A

Load regulation 30 mV

Line regulation 20 mV

Ripple <150 mV

#### Environmental

Operational from -40° to +85°C

RoHS compliant

#### Mechanical

Dimensions 3.6 x 3.8 inches (90 x 96mm)

PC Board 0.078 inches, four layer FR4

PC/104-Plus 120-pin (4 x 30; 2mm) stackthrough

PC/104 16-bit stackthrough

Weight 4.5 oz. (127 gm)

### Ordering Information

Visit [www.WinSystems.com](http://www.WinSystems.com) for complete ordering details.

PPM-DC-ATX-P	PC/104-Plus ATX power supply
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 $\pm 12V$ PC/104 DC/DC power supply

