

## Features

### Performance for Industrial IoT Applications

- DMP<sup>®</sup> Vortex86DX3<sup>®</sup> Processor (Dual core)
- Up to 2 GB DDR3-LV System RAM
- 1 GHz
- Low Power
- 10 Year Availability

### Rugged Design for Demanding Environments

- -40°C to +85°C Operating Temperature Range
- PC/104 Small Form Factor
- Shock and Vibration Tested
- +5V Input Power
- Watch Dog Timer

### Connectivity and I/O for Embedded Systems

- Dual Ethernet (1x Fast Ethernet, 1x Gigabit)
- 4x USB 2.0
- 24x GPIO +5V with Event Sense
- 4x Multimode Serial Ports (RS232, RS422, RS485)
- Parallel Port LPT

### Graphics Support

- VGA 1920 x 1440

### Storage

- CompactFlash
- SATA
- eMMC
- 1 MB Battery-Backed SRAM

### Expansion Options

- Full PC/104 ISA Support



## Product Description

WinSystems' PCM-C418 single board computer (SBC) is a PC/104 form factor featuring the latest generation DM&P<sup>®</sup> Vortex86DX3<sup>®</sup> SOC processor. Its small size, low power, rugged design, and extended operational temperature range make it a great fit for industrial IoT applications and embedded systems in the industrial control, transportation, Mil/COTS, and energy markets.

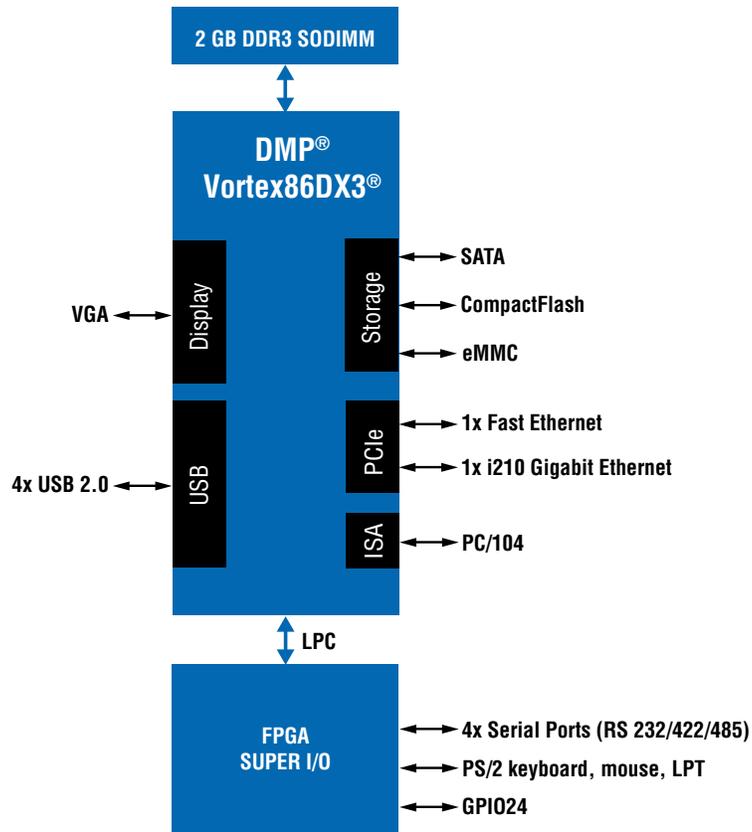
The WinSystems PCM-C418 single board computer features a 1GHz Dual Core CPU and up to 2GB of soldered-down memory. The SBC includes a CompactFlash socket and external SATA connector for removable solid state storage for operating systems (OS) and applications. In addition, the board supports soldered-down, bootable eMMC devices for rugged solid state storage requirements (Minimum Order Quantity Required).

This full-featured SBC has connectors for PS/2 mouse and keyboard, VGA, dual Ethernet, four USB 2.0 channels, one parallel (LPT) port, 4 multimode serial ports, 24 general purpose I/O (GPIO) lines, 1M of battery backed SRAM, and a watchdog timer.

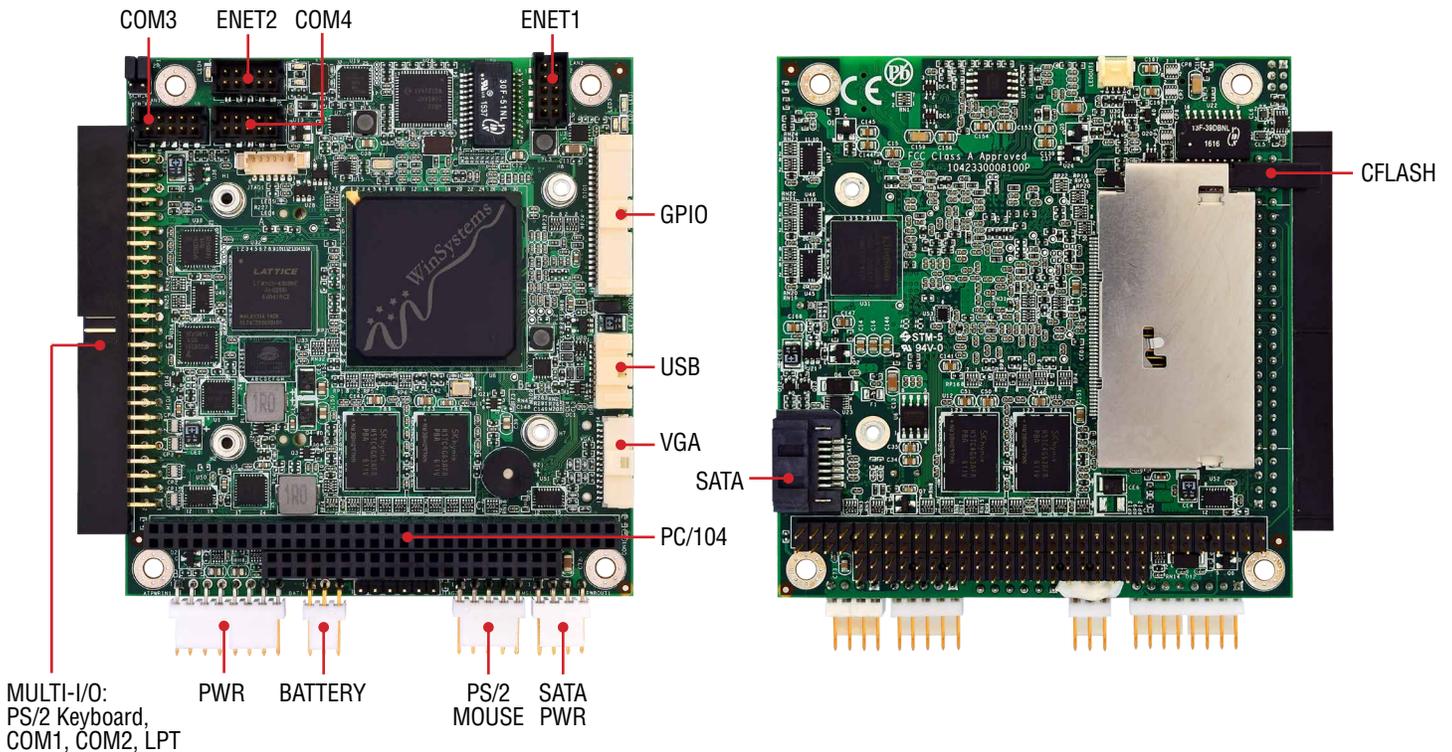
Additionally, the board has a native PC/104 ISA bus for expansion.

The PCM-C418 supports Linux, Windows<sup>®</sup> Embedded Standard 7, DOS, and other x86-compatible real-time operating systems. Drivers are available from the WinSystems website.

Block Diagram



Connectors



# PCM-C418

## Technical Specifications

<b>PROCESSOR</b>	<b>DMP Vortex86DX3</b> Dual-core, up to 1 GHz	
<b>OS COMPATIBILITY</b>	• Compatible with Linux, Windows7, and other x86 operating systems	
<b>MEMORY</b>	• Up to 2GB of DDR3LV soldered-down memory	
<b>BIOS</b>	• AMI BIOS	
<b>DISPLAY</b>	• Single video output – VGA	
<b>STORAGE</b>	• 1 SATA (2.0) channels • CompactFlash socket • 1 MB soldered-on SRAM • Up to 64GB eMMC soldered down Solid State Disk	
<b>NETWORK INTERFACE</b>	• Two Ethernet ports – One 10/100/1000 i210 Gigabit – One 10/100 Fast Ethernet	
<b>ONBOARD I/O</b>	• Four USB 2.0 with overcurrent protection • Four 16C550-compatible, serial channels with speeds up to 1 Mbps in RS-422/485 modes – All four capable of RS-232/422/485 operation • 24 lines of general purpose I/O (user selectable input/output supported voltages <30V) • LPT Parallel Port supporting SPP/EPP • Speaker output for beep tones • Real-time Clock (RTC) with optional battery back up • Watchdog timer adjustable from 1 second to 255 minutes	
<b>EXPANSION BUS</b>	• PC/104 fully compatible native 16-bit ISA (8-16MHz)	
<b>POWER</b>	• +5V DC required Maximum: 1.5A / Typical: 1.2A	
<b>ENVIRONMENTAL</b>	• Operational from -40°C to +85°C with heat spreader (200 LFM airflow) • RoHS compliant	• Operational from -40°C to +85°C with heat sink (still air) • RoHS compliant
<b>MECHANICAL</b>	• Dimensions: 3.6 x 3.8 inches (90 x 96 mm) • Weight: 6.4oz (182g) with spreader • Board thickness: 0.078 inches	• Dimensions: 3.6 x 3.8 inches (90 x 96 mm) • Weight: 9.76 oz (277g) heatsink • Board thickness: 0.078 inches

## Order Information

<b>SBC PART NUMBER</b>	<b>PCM-C418-2-0-ST</b> (with heat spreader) 1 GHz PC/104 SBC with dual Ethernet, 2GB RAM, 1MB stack-through connector	<b>PCM-C418-2-1-ST</b> (with heatsink) 1 GHz PC/104 SBC with dual Ethernet, 2GB RAM, 1MB stack-through connector
<b>CABLES</b>	• CBL-SET-418-2 cable and accessories set includes: – ADP-IO-USB-002 – USB Adapter Board – BAT-LTC-E-36-16-1 – External 3.6V, 1650 mAH battery with plug-in connector – CBL-174-G-1-1.5 – Power – Unterminated, 18" – (2) CBL-ENET1-206-18A – Ethernet – 2mm Molex Milli-Grid, 18" – (2) CBL-SER1-202-12 – Serial – DB9, 12" – CBL-VGA-002-12 Video – VGA (DB15), 12" – CBL-USB4-002-12 – Four USB ports with two 8-pin 2mm connectors – CBL-247-G-1.5 – Multi-I/O – KYB (PS/2), Serial (DB9) and LPT (DB25), 12"	
<b>OPTIONAL BATTERY</b>	• BAT-LTC-E-36-16-1 (External 3.6 V, 1650 mAH) • BAT-LTC-E-36-27-1 (External 3.6 V, 2700 mAH)	

## Expansion and Customization Options

WinSystems provides additional cables, expansion cards, power supplies, and solid state drives to complete your embedded computing solution including data acquisition, communications, location, and other features via PC/104 interface. Our Application Engineers are available to guide you through product selection and customized options.

Contact an Application Engineer or visit our website for more information.



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WinSystems, Inc. | 715 Stadium Drive, Arlington, Texas 76011 | 817-274-7553 | [info@winsystems.com](mailto:info@winsystems.com) | [www.winsystems.com](http://www.winsystems.com)