

Features

Performance for Industrial IoT Applications

- DMP[®] Vortex86DX3[®] 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[®] Vortex86DX3[®] 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).

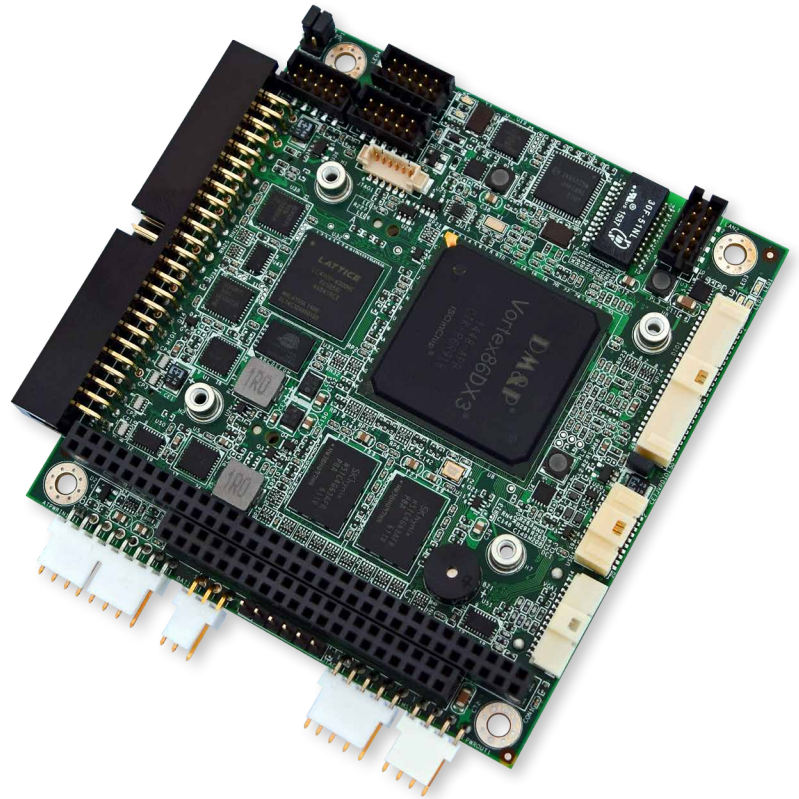
This full-featured SBC has connectors for PS/2 mouse and keyboard, VGA, dual Ethernet, four USB 2.0 channels, one parallel (LPT) port, 4 multimode serial ports, 24 general purpose I/O (GPIO) lines, 1M of battery backed SRAM, and a watchdog timer.

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

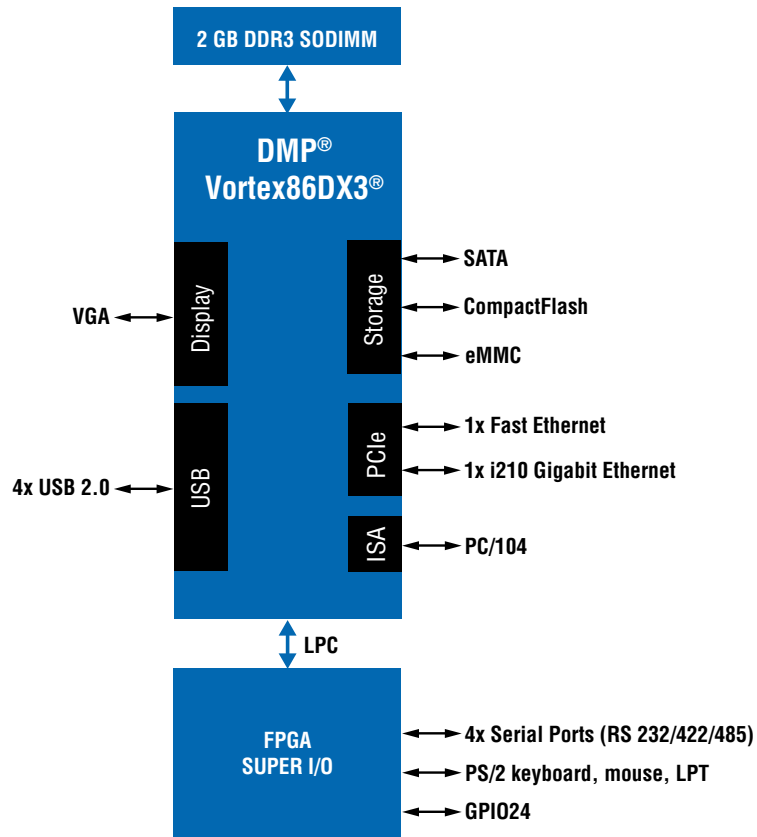
The PCM-C418 supports Linux, Windows[®] Embedded Standard 7, DOS, and other x86-compatible real-time operating systems. Drivers are available from the WinSystems website.



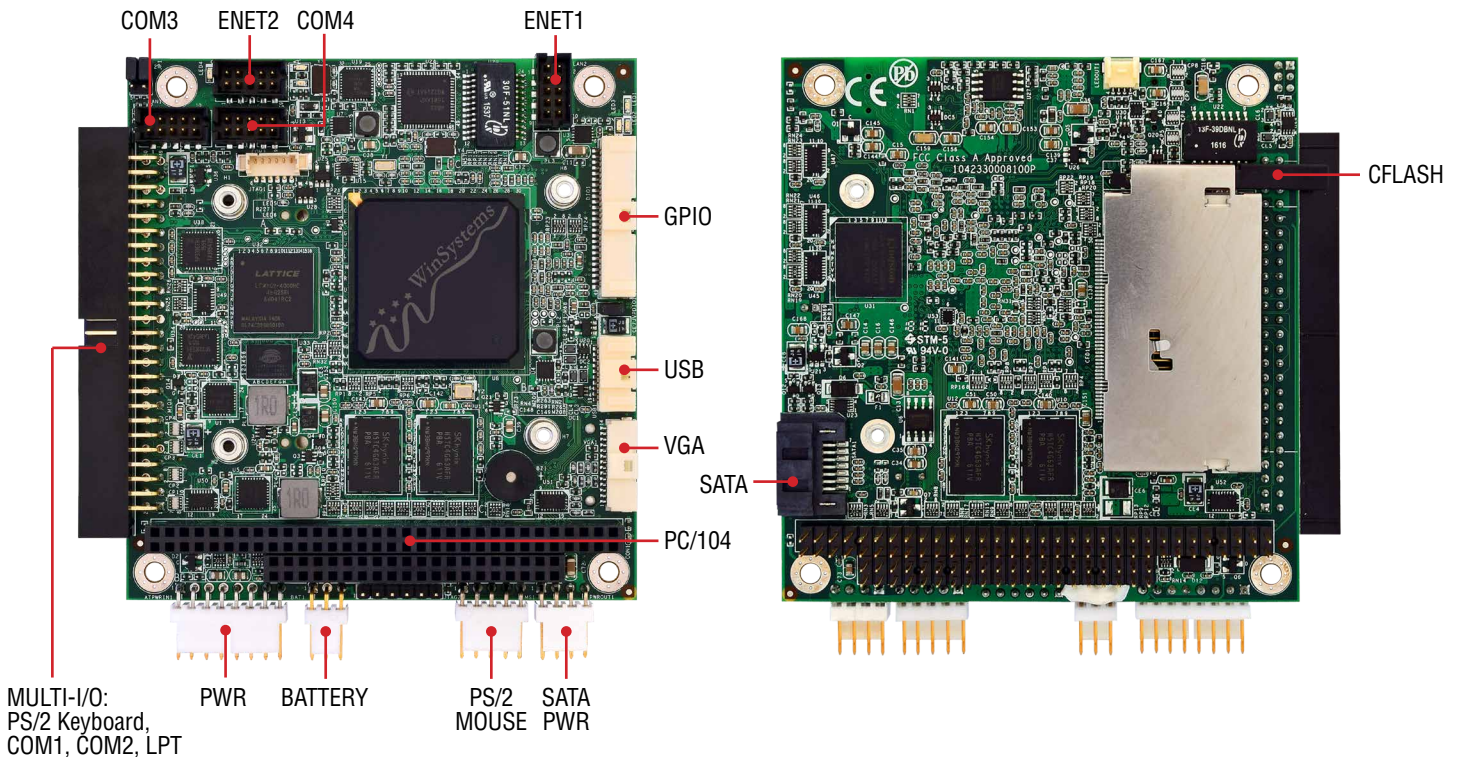
Parhelia B.V.
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Block Diagram



Connectors



Technical Specifications

PROCESSOR	DMP Vortex86DX3 Dual-core, up to 1 GHz	
OS COMPATIBILITY	<ul style="list-style-type: none"> Compatible with Linux, Windows7, and other x86 operating systems 	
MEMORY	<ul style="list-style-type: none"> Up to 2GB of DDR3LV soldered-down memory 	
BIOS	<ul style="list-style-type: none"> AMI BIOS 	
DISPLAY	<ul style="list-style-type: none"> Single video output <ul style="list-style-type: none"> VGA 	
STORAGE	<ul style="list-style-type: none"> 1 SATA (2.0) channels CompactFlash socket 1 MB soldered-on SRAM Up to 64GB eMMC soldered down Solid State Disk 	
NETWORK INTERFACE	<ul style="list-style-type: none"> Two Ethernet ports <ul style="list-style-type: none"> One 10/100/1000 i210 Gigabit One 10/100 Fast Ethernet 	
ONBOARD I/O	<ul style="list-style-type: none"> Four USB 2.0 with overcurrent protection Four 16C550-compatible, serial channels with speeds up to 1 Mbps in RS-422/485 modes <ul style="list-style-type: none"> 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 	
EXPANSION BUS	<ul style="list-style-type: none"> PC/104 fully compatible native 16-bit ISA (8-16MHz) 	
POWER	<ul style="list-style-type: none"> +5V DC required Maximum: 1.5A / Typical: 1.2A 	
ENVIRONMENTAL	<ul style="list-style-type: none"> Operational from -40°C to +85°C with heat spreader (200 LFM airflow) RoHS compliant 	<ul style="list-style-type: none"> Operational from -40°C to +85°C with heat sink (still air) RoHS compliant
MECHANICAL	<ul style="list-style-type: none"> Dimensions: 3.6 x 3.8 inches (90 x 96 mm) Weight: 6.4oz (182g) with spreader Board thickness: 0.078 inches 	<ul style="list-style-type: none"> Dimensions: 3.6 x 3.8 inches (90 x 96 mm) Weight: 9.76 oz (277g) heatsink Board thickness: 0.078 inches

Order Information

SBC PART NUMBER	PCM-C418-2-0-ST (with heat spreader) 1 GHz PC/104 SBC with dual Ethernet, 2GB RAM, 1MB stack-through connector	PCM-C418-2-1-ST (with heatsink) 1 GHz PC/104 SBC with dual Ethernet, 2GB RAM, 1MB stack-through connector
CABLES	<ul style="list-style-type: none"> CBL-SET-418-2 cable and accessories set includes: <ul style="list-style-type: none"> 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" 	
OPTIONAL BATTERY	<ul style="list-style-type: none"> 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.