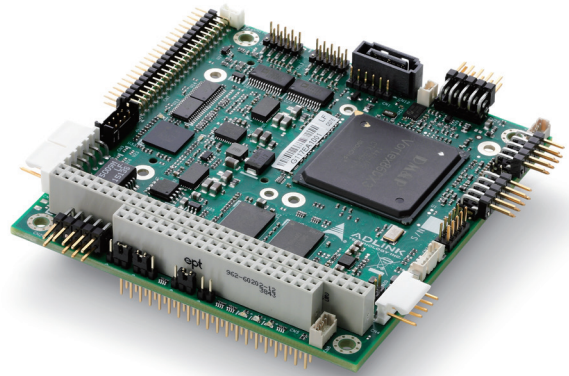# CM1-86DX3

*Extreme Rugged™ PC/104 Single Board Computer
with Vortex86DX3 System-on-Chip*

Features

- Ultra low power, DM&P Vortex86DX3 SoC
- Full ISA bus support
- 2GB soldered DDR3L
- 1x GbE, 1x Fast Ethernet
- SATA, CFast
- VGA and 18/24-bit single channel TTL/TFT
- Supports Smart Embedded Management Agent (SEMA) functions

Specifications

Core System

CPU	Vortex86DX3 SoC, 1.0 GHz
Memory	2GB soldered DDR3L
BIOS	AMI BIOS, integrated in SoC
SEMA®	Yes
Hardware Monitor	2x LAN, watchdog
Watchdog Timer	Yes, 3 different
Expansion Busses	PC/104 (ISA)

Video

VGA Interface	Yes
LVDS Interface	18/24-bit single channel

Ethernet

Standard	1x integrated PHY (10/100 Mbit)
	1x Intel® i210IT (10/100/1000 Mbit)

I/O Interfaces

USB	2x USB 2.0
SATA	1x SATA
Serial	2x RS-232/422/485 serial ports,
	2x RS232 serial ports
PS2	Keyboard and mouse
GPIO	Standard: 8x

Operating Systems

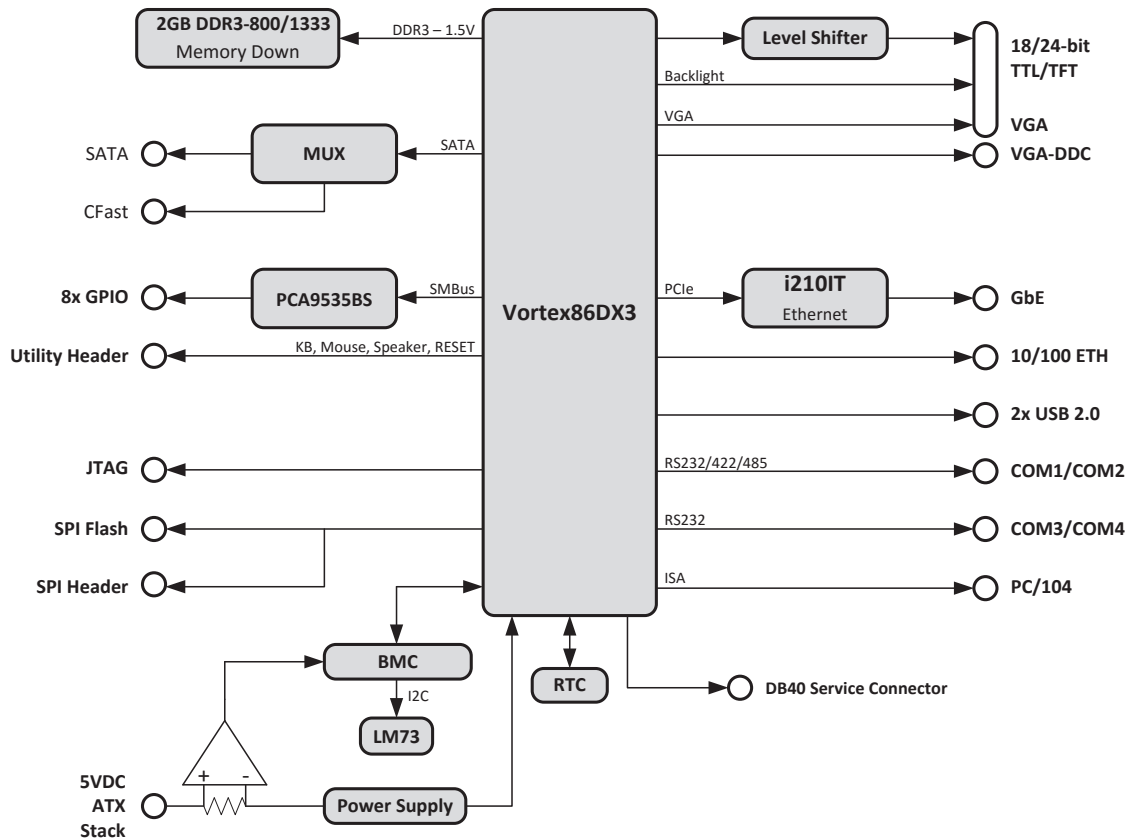|	
Standard Support	WES2009, WES7, Linux, QNX
Extended Support	WEC7, WinCE 6.0 (on request)

Power

Standard Input	AT mode (5V DC +/-5%)
Power States	No ACPI
Power Consumption	Approx. ~ 6 to 7 W

Mechanical and Environmental

Form Factor	PC/104 Specification 2.6
Dimensions	96 mm x 90 mm (3.775" x 3.550")
Operating Temperature	Standard: 0°C to +60°C
Humidity	10% to 90% (non-condensing)
Shock and Vibration	Non-operating: 50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B Operating: 11.95 Grms, 50-2000 Hz, each axis, MIL-STD-202G Method 214A
Storage Temperature	-55°C to +85°C
Cooling	Passive

Functional Diagram

Intelligent Middleware

SEMA

Middleware Name	SEMA®
Description	Local management, control of embedded computer systems
	Extended EAPI for monitoring, controlling and analytics applications
	Multiple OS support and across platforms (x86, ARM)

Ordering Information

- **CM186DX3**
  PC/104 with Vortex 86DX3, 2GB soldered DDR3, 10/100 Ethernet, GbE, CFast socket, TTL LCD and VGA display
- **CM1-86DX3-X-01**
  CM1-86DX3 cable kit
- **CM1-86DX3-TM-10**
  CM1-86DX3 Aluminum heatsink

  *other configurations by request

Intelligent IOT Platform

SEMA Cloud

Platform Name	SEMA Cloud®
Description	Application ready comprehensive industrial grade IoT Platform
	Connecting Devices to a Cloud Platform and to Web Applications
	Remote monitoring and controlling managing of connected devices
	Enabling integration of operational device data into business processes
	Cloud based Platform as a Service (PaaS)