

FEATURES

CPU

- Intel® Atom™ Z510, 1.1 GHz
- US15W Chipset

Environmental

- -25°C to 70° C fanless operation
- MIL-202G/214A shock and vibration
- Internal temperature software readable

Power Supply

- 8V to 36V input voltage range
- Extensive transient protection
- Ignition switch input for smart OS shutdown
- ATX mode compatible

Wireless

- 50-channel GPS, best in class for fast lock and sensitivity, supplied
- 802.11 b/g WiFi, FCC certified, option

Modular/Expandable

- PC/104 and Mini PCI expansion
- 32GB - 128GB Flash Drive option

Connectivity and I/O

- COM – two RS-232/RS-485
- USB – four ports, USB 2.0
- Digital I/O – 8 lines, up to 36V operation
- Ethernet – 10/100 and 10/100/1000 Mb
- Video – DVI-D displays to 1920 x 1440
- SATA port (internal)

Supported Operating Systems

- Windows® XPe or Linux
- Can be shipped pre-configured with drivers installed

Applications

- Police
- Medical vehicles
- Taxi
- Trucking
- AVL
- Transit systems
- Mesh
- Maintenance vehicles



DESCRIPTION

The Fleet CORE Atom excels in demanding applications like police, trucking emergency vehicles, mesh networks and other applications where the cost of failure can be unacceptably high. The careful circuit design, component selection, testing and superior heat dissipation maximize reliability and minimize costly downtime.

Long term reliability is at the core of our design philosophy. The Fleet CORE Atom incorporates the field-proven, Octagon Hedgehog® power supply technology, providing superior protection from the severe transients common in mobile power systems. It rejects load dumps, repeated transients and over voltage. The high density extrusion becomes the heat sink for the CPU and other heat producing components.

A unique design tightly integrates the electrical, thermal and mechanical components into a complete system with no compromise to any one segment. It was designed for applications where severe environments and high performance meet. This successful design philosophy allows fanless operation over a -25°C to 70° C range.

The fully developed & proven platform accelerates your design process. It can be supplied with Windows XPe or Linux pre-installed with all drivers.

Custom versions are possible through the addition of Mini PCI and PC/104 Plus modules to increase functionality. This can be done by either Octagon or the user. Extra SMA connectors are provided for wireless devices. In addition, automotive hard drives or Solid State Disks can be installed using the SATA interface and mounted on the PC/104 stack. Two of the front panel LEDs are reserved for user-defined status or other functions.

Contact Octagon if an extended temperature is required

SPECIFICATIONS

Low-Power Processor

- Intel Atom Z510, 1.1 GHz
- US15W Chipset
- Front-side Bus speed: 400 MHz
- Watchdog timer

DRAM Memory

- 512 MB DDR2, industrial temperature grade, surface-mounted

CompactFlash

- 4 GB, industrial temperature grade, error-correcting, automatic wear-leveling

Serial Ports

- One RS-232, four-wire
- One RS-232/485, four-wire, configurable

USB Ports

- Four 2.0 ports with secure cable locks for reliable operation in high vibration

Ignition Input

- Assures orderly shutdown when engine turned off preventing data loss

Digital I/O

- Four output lines with common ground, sink 100 mA @ 32V
- Four input lines, 8V to 32V

Ethernet Ports

- One 10/100/1000 Base-T port
- One 10/100 Base-T port

Wireless Ports

- 50-channel GPS, fast lock, -160 dBm sensitivity, high immunity to jamming, female SMA connector
- 802.11 b/g Wifi: FCC part 15.247 & CE certified, female SMA connector (optional)
- Spare SMA connectors for user-added functions

Video

- DVI-D up to 1920 x 1440 x 24 bpp resolution

Keyboard and Mouse

- Supported through USB ports

Power Supply

- 8-36VDC input voltage (10-32 VDC continuous)
- Protection - load dump, reverse voltage, brown-out, and transient protection
- ATX mode compatible
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Power consumption

- 9-11W at 27VDC input depending upon operating conditions. Less than 1.5W in standby

Status LEDs (bi-color)

- Indicate different power states
- User programmable
- Mini PCI status
- Hard disk and CompactFlash operation

Environmental

- -25°C to +70°C ambient air temperature (brief excursions outside range are well tolerated)
- Fanless operation over the full temperature range
- Allow 50 mm on five of six sides for natural convection when used in ambients above 50°C
- For user added electronics derate 2°C/W of added dissipation

Shock

- 20g, 3 axis per MIL-STD 202G, test 213B, condition J

Vibration

- 5g, 3 axis per MIL-214A, test 214A, condition A

Mechanical

- Size: 180 mm wide, 90 mm high, 220 mm deep (7.1" x 3.5" x 8.7")
- Weight: 2.0 kg (4.0 lbs)
- External Finish: Powder coat paint

Emissions

- Meets FCC & CE Class A requirements

ORDERING INFORMATION

- #8469 Fleet CORE ATOM computer with 1.1 GHz CPU, 512 MB industrial, DDR2 DRAM, 4 GB of industrial grade CompactFlash, and GPS
- #8213 Power Cable, 6 feet with Fleet CORE Atom connector on one end and wire on the other
- #8205 Technical Manual – Available only in PDF format on the website

Contact Octagon for information on the optional Mini PCI cards, PC/104 cards, and SATA drives.