

Vehicle Mounted Industrial Computer Atom Z520PT Model



Front view



Rear view

ETC-A113E

RoHS

Applications

- Driver seat display terminal (construction vehicles such as cranes and forklifts)
- Surveillance camera display terminal (outside use)
- Digital signage contents distribution control (inside trains & buses)
- Vibration tests/measurements (inside trains & buses)
- Destination display control (inside trains & buses)
- Satellite broadcast van communication control

Overview

The Vehicle Mounted Industrial Computer Atom Z520 PT model achieves low power consumption and continuous 24/7 operation. Excellent thermal design enables it to operate in the wide temperature range from -30 degrees C to +80 degrees C at starting, or from -30 degrees C to +70 degrees C for continuous operation. It features robust, small, silent, and anti-vibration protection that are perfect for embedded devices.

Features

- [Intel Atom Z520PT \(1.33 GHz\)](#)
Achieves low power consumption and wide temperature range.
- [4 GB Solid State Drive \(SSD\) included](#)
- [320 GB SATA hard-drive bay](#)
Saves a large volume of data and builds a high-availability system that continuously operates in harsh environments.
- [CAN interface port](#)
Provides high speed CAN interface; an ideal solution to connect and control field-level devices.
- [Isolated general purpose digital input/output pins](#)
Connect easily to warning devices such as revolving warning lights and buzzers.
- [Wide range DC power input](#)
Supports wide range DC power input from +6 Vdc to +36 Vdc (maximum rating)/ from +7 Vdc to +27 Vdc (continuous operation).
- [Embedded design](#)
Can be mounted on a wall, on a bottom surface, and attached by wiring. Complying with VESA standard, the product can be mounted to the back side of a display.
- [Low maintenance](#)
Due to its fanless design and 10-year maintenance-free battery used for calendar clock, no worries about the lifetime of the fan or battery.
- [Quick Boot](#)
Boots the operating system in about 10 seconds with write filter and Hibernate Once Resume Many when HORM function is enabled. (BIOS boot excluded)

Specifications

| | | | | | |
|--------------------------------------|---|---|--|----------|--|
| Model | | Standard Model | | | |
| Type | | ETC-A013E | ETC-A113E | ETC-A13E | |
| CPU | Processor | Intel Atom Processor Z520PT 1.33 GHz | | | |
| | CPU Fan | No | | | |
| Chip Set | | Intel US15WPT | | | |
| Main Memory | | 1 GB | | | |
| BIOS/Loader | | Phoenix SecureCore BIOS | | | |
| Calendar Clock Backup Battery | | Large capacity battery (typical life time: 10 years), BR-1/2AA (Panasonic Corporation) | | | |
| OS | Supported OS | Windows Embedded Standard 2009 (32bit) Interface Linux System (32bit) | | | |
| | Operation Confirmed OS | Android, MeeGo, INtime, RedHawk | | | |
| Storage | Boot Device | SSD 4 GB | SSD 4 GB | SSD8GB | |
| | Auxiliary Device 1 | CF slot (empty) | SATA HDD 320 GB | - | |
| | Auxiliary Device 2 | SD card slot x 1 | | | |
| Graphics | Controller | Built into CPU | | | |
| | Resolution | 1920×1080(RB), 1600×1200, 1600×900, 1400×1050, 1280×1024, 1280×960, 1280×768, 1280×720, 1152×864, 1024×768, 800×600, 640×480 * Resolutions may vary depending on OS or graphic driver. | | | |
| Interfaces | Display | Analog RGB×1, 15 pin D-sub connector | | | |
| | Audio | Line output: stereo x 1 (stereo Φ3.5 mini jack), Microphone input x 1 (stereo Φ3.5 mini jack) HD Audio codecs Line output: full scale output level 1.2 Vrms (typ.), Mic input: full scale input level 1.6 Vrms (typ.) | | | |
| | PS/2 | 1 port (6-pin round mini DIN connector) *Mouse and keyboard can share a connector using an optional splitter cable. | | | |
| | LAN | 1 port (RJ-45 connector) Intel WG82574IT controller 1000BASE-T, Wake On LAN compatible | | | |
| | USB | 5 ports (Series A), 1 ports (miniAB): for USB client USB Rev.2.0 compatible | | | |
| | RS-232C | 2 ports (9-pin D-sub connector) 16550 compatible, transfer rate: 115.2 kbps (max.) | | | |
| | RS-485 | - | | | |
| | CAN | 1 port (9-pin D-sub connector), High-speed CAN, transfer rate: 60 kbps to 1 Mbps | | | |
| | External Input/output | 4-pin connector (e-CON)(power on/off x 1, RAS output x 1) | | | |
| | Digital Input/output | 16-pin flat cable connector Isolated digital input x 4 (with interrupt function), normally-open relay contact output x 4 | | | |
| | Switch | Power switch | | | |
| | RAS | Watchdog Timer | Software programmable (1 to 255 seconds) Time-up notification is software selectable either reset or interruption | | |
| | | Hardware Monitoring | Board temperature/CPU temperature/ power supply voltage | | |
| RAS Output | | Output method: normally-open relay contact output x1, output conditions are software selectable from watchdog timer, board temperature, or power supply voltage. | | | |
| Chassis Cooling FAN | | No | | | |
| Power Supply | Input Voltage | Typical : +7 Vdc to +27 Vdc (Continuous operation) Maximum : +6 Vdc to +36 Vdc | | | |
| | Power Consumption | [ETC-A013E] +12Vdc: 9.1W (typ.)+24Vdc: 9.2W (typ.) [ETC-A113E] +12Vdc: 10.6W (typ.)+24Vdc: 10.7W (typ.) [ETC-A213E] +12 Vdc:11.1 W (typ.)+24 Vdc: 11.2W (typ.) | | | |
| | Power Supply for External Device | CF card slot: 3.3 V 500 mA, USB I/F: 5 V Maximum supply current: 1A per port *Total amount of all ports:1A | | | |
| Security Slot | | Yes | | | |
| Dimensions (W x D x H) | | 210 × 150 × 29 [mm] | | | |
| Mounting Orientation | | Upright, horizontal | | | |
| Weight | | 1.2 kg | | | |

| | |
|--------------------------------------|---|
| Operating Temperature | <p>[ETC-A013E, ETC-A213E] Temperature: -30 degrees C to +80 degrees C(at starting), -30 degrees C to +70 degrees C (continuous operation) Humidity: 10 % to 90 % (non-condensing) [ETC-A113E] Temperature: +5 degrees C to +45 degrees C (continuous operation) Humidity: 20 % to 90 % (non-condensing)</p> |
| Storage Temperature/ Humidity | <p>Temperature: -40 degrees C to 85 degrees C [ETC-A113E: +5 degrees C to 45 degrees C] Humidity: 10 % to 90 % (non-condensing)*</p> |
| Noise Immunity | <p>Static electricity: in contact: +/-6 kV, in the air: +/-8 kV radiated electromagnetic field: 10 V/m Conduction: 10 V/m FTB FTB: signal: 1 kV, power supply: 2 kV</p> |
| Vibration Resistance | <p>[ETC-A013E, ETC-A213E] Vibration resistance: 5 G (max.) - Vibration frequency: 10 Hz to 150 Hz - Displacement amplitude: 0.35 mm (half amplitude) - Acceleration amplitude: 49 m/s² (5 G) - Duration: 75 minutes [ETC-A113E] Vibration resistance: 1 G (max.) - Vibration frequency: 5 Hz to 500 Hz - Displacement amplitude: 0.075 mm (half amplitude) - Acceleration amplitude: 9.8 m/s² (1 G) - Duration: 75 minutes</p> |
| Shock Resistance | <p>[ETC-A013E, ETC-A213E] Shock resistance: 100 G (max.) - Duration of activity: 6 ms (not operating) [ETC-A113E] Shock resistance: 50 G (max.) - Duration of activity: 6 ms (not operating)</p> |



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