

Vehicle Mounted Industrial PC Atom E680T Model



Front view



Rear view

RoHS

ETC-D016E

Applications

- Driver seat display terminal (construction vehicles such as cranes and forklifts)
- Surveillance camera display terminal (outside use)
- Digital signage contents output controls (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 PC Atom E680T model achieves low power consumption and continuous 24/7 operation. Excellent thermal design enables it to operate in 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 E680T \(1.6 GHz\)](#)
Achieves low power consumption and wide temperature range.
- [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 and audio jacks](#)
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 +40 Vdc (maximum rating)/ from +7 Vdc to +37 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.
- [No moving parts](#)
Without any moving parts such as a cooling fan and hard drive, the product is suitable for use in quiet environment such as hospitals and classrooms. Fanless and hard drive-less design reduce costs and burden of maintenance.
- [Quick boot](#)
Boots the operating system quickly with write filter and Hibernate Once Resume Many (HORM) when HORM function is enabled. (BIOS boot excluded)
- [Wake On LAN](#)
Can turn on the system from another computer on the same local area network.

Specifications

Model		Standard Model		
Type		ETC-D016E	ETC-D116E	ETC-D216E
CPU	Processor	Intel Atom Processor E680T 1.6 GHz		
	CPU Fan	No		
Chip Set		Intel EG20T		
Main Memory		1 GB		
BIOS/Loader		Phoenix SecureCore Tiano		
Calendar Clock Backup Battery		Large capacity battery (typical life time: 4.5 years) BR-1/2AA (Panasonic Corporation)		
OS	Supported OS	Windows Embedded Standard 2009 (32 bits) Interface Linux System 6 (32 bits)		
	Operation Confirmed OS	Android, MeeGo, INtime, RedHawk		
Storage	Boot Device	CFast 4 GB		
	Auxiliary Device 1	CFast	SATA HDD 100GB	SSD 8GB
	Auxiliary Device 2	SD card slot × 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.) Microphone 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	2 port (RJ-45 connector), Intel WG82574IT controller, 1000BASE-T, Wake On LAN compatible, Jumbo Frame compatible		
	USB	5 ports (USB Rev.2.0 Series A connector)		
	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 +37 Vdc (Continuous operation) Maximum : +6 Vdc to +40 Vdc		
	Power Consumption	T.B.D		
	Power Supply for External Device	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	Temperature: -30 degrees C to +80 degrees C(at starting), -30 degrees C to +70 degrees C (continuous operation) [ETC-D116E : -15 degrees C to +60 degrees C (continuous operation)] Humidity: 20 % to 90 % (non-condensing)
Storage Temperature/ Humidity	Temperature: -40 degrees C to 85 degrees C Humidity: 10 % to 90 % (non-condensing)*
Noise Immunity	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
Vibration Resistance	Vibration resistance: 5.0 G (max.) [ETC-D116E: 1 G (max.)] - Vibration frequency: 10 Hz to 150 Hz [ETC-D116E: 5 Hz to 500 Hz] - Displacement amplitude: 0.35 mm (half amplitude) [ETC-D116E: 0.075 mm (half amplitude)] - Acceleration amplitude: 49 m/s ² (5 G) [ETC-D116E: 9.8 m/s ² (1 G)] - Duration: 75 minutes
Shock Resistance	Shock resistance: 100 G (max.) [ETC-D116E: 50 G (max.)] - Duration of activity: 6 ms (not operating)

Configuration Selections

System configurations are selectable depending on your requirement.

Model	Vehicle Mounted Industrial Computer Atom E680T Model
CPU	Intel Atom E680T 1.6 GHz
Memory	<input type="checkbox"/> 1 GB <input type="checkbox"/> 2 GB
Display	<input checked="" type="checkbox"/> RGB (Fixed)
Boot Device	<input type="checkbox"/> CFast (4 GB) <input type="checkbox"/> CFast (8 GB) <input type="checkbox"/> CFast (16 GB)
Auxiliary Device	<input type="checkbox"/> None (CFast slot) <input type="checkbox"/> CFast (4 GB) <input type="checkbox"/> CFast (8 GB) <input type="checkbox"/> CFast (16 GB) <input type="checkbox"/> HDD (100 GB) <input type="checkbox"/> SSD (8 GB)
OS	<input type="checkbox"/> Interface Linux System 6 (L6) (32 bit) <input type="checkbox"/> Interface Linux System 6 (K6) (32 bit) <input type="checkbox"/> Windows Embedded Standard 7 (32 bit) <input type="checkbox"/> Windows 7 Professional (32 bit) <input type="checkbox"/> Windows Embedded Standard 2009 (32 bit) <input type="checkbox"/> Windows XP Professional (32 bit)



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